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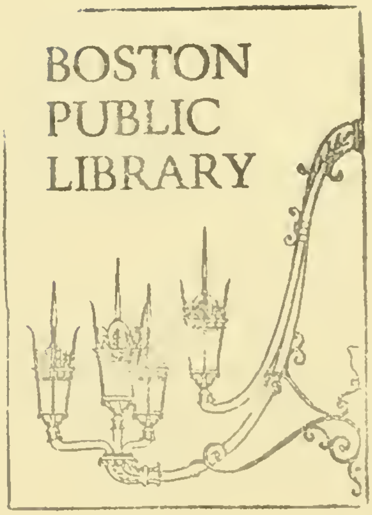

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CUSTOM HOUSE
BOARD OF TRADE BUILDING
HOTEL PROPOSAL

DRAFT PROJECT IMPACT REPORT

Submitted To:

BOSTON REDEVELOPMENT AUTHORITY

Proponent:

BEAL CH LIMITED PARTNERS, INC.
C/O THE BEAL COMPANIES
177 MILK STREET
BOSTON, MA 02109

Hotel Operator:

INTER-CONTINENTAL HOTELS GROUP

JUNE, 1991

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THE CUSTOM HOUSE

INTERCONTINENTAL HOTEL

THE BEAL COMPANIES
INTERCONTINENTAL HOTEL CORPORATION

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BOARD OF TRADE BUILDING
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A. GENERAL INFORMATION AND PROJECT SUMMARY

A. GENERAL INFORMATION AND PROJECT SUMMARY

The Custom House has been a preeminent symbol of Boston and its maritime history for nearly 150 years. The Custom House was designed to accommodate the U.S. Custom Service, which at the time collected over one fifth of the total custom revenues in the country from Boston's trade. The base of the existing Custom House was completed in 1847 by the federal government at a cost of over $1 million. Built of granite in the Greek Revival style, the four-story, domed building was outgrown by 1900 by the needs of Boston's busy port. Because of the high cost of land in the area, the federal government commissioned the monumental campanile-style addition built directly on top of the 1847 Custom House. Completed in 1915, the 495-foot Classical Revival style tower was exempt from the 125-foot height limit then in effect in Boston. Its height and distinctive design have made the Custom House Tower one of Boston's most important landmarks.

The Custom House has been used for a variety of government purposes during the last half-century. In 1987, many government offices were consolidated in a New Federal Building and the Custom House was declared surplus. It was offered for sale to the City of Boston and was purchased by the Boston Redevelopment Authority (BRA). The BRA offered it to interested developers for redevelopment purposes under a long-term lease.

In July, 1990 the BRA selected The Beal Companies and Inter-Continental Hotels to redevelop the Custom House into a luxury hotel. Boston's downtown hotel market has remained healthy despite the economic downturn.

The development concept includes physically linking the Custom House with an adjoining building, 131 State Street, an 11-story office building located directly to the west of the Custom House. The two buildings will be operated as a single hotel property. The concept of physically linking the two buildings has been presented to the Boston Landmarks Commission and the Massachusetts Historical Commission and has received conceptual approval from both. The increase in square footage also provides more space for hotel back-of-the-house uses such as the kitchen, laundry, employee spaces, workshops and loading docks which cannot easily be accommodated within the envelope of the Custom House, as well as additional meeting facilities.

The Custom House Inter-Continental Hotel will contain a total of 340 rooms, 104 in the Custom House and 236 in the 131 State Street building. A three-story rooftop addition to 131 State Street, in compliance with existing zoning regulations, will be required to accommodate this program. Another small addition to the India Street side of 131 State Street will provide space for the hotel lobby and registration functions and access to the proposed pedestrian bridge. This Bridge will connect 131 State Street to the west portico of the Custom House, allowing hotel guests to enter the Custom House in its most monumental space.

Physical restoration of the Custom House will be performed in accordance with guidelines from the Secretary of the Interior and the Boston Landmarks Commission. The exterior of the Custom House will remain essentially unchanged. Public areas,

restaurants, lounges, meeting rooms and museum space will be accommodated on the first three floors of the Custom House. The Tower floors will be laid out with seven rooms per floor. The observation deck on the 25th floor of the Custom House Tower will be reopened and made available to the public on a limited basis.

The exterior of 131 State Street has been recently restored, and the interior will be reconfigured for hotel use, twenty rooms per floor are planned. Improvements will also be made to the public spaces around the Hotel to extend and complement the pedestrian ambiance of the Faneuil Hall/Quincy Market area.

1. Applicant Information

(a) Developer/Owner: Beal Properties CH Limited
c/o The Beal Companies
177 Milk Street
Boston, MA 02109
Mr. George L. McGoldrick, Jr.
Project Manager
(617)451-2100
(617)451-1801 FAX

Legal Counsel: Hill & Barlow
One International Place
100 Oliver Street
Boston, MA 02110
Daniel A. Taylor, Esquire
(617)439-3555
(617)439-3580 FAX

1. Applicant Information (cont.)

Architect:

Jung/Brannen Associates, Inc.
177 Milk Street
Boston, MA 02109
Mr. Robert Brannen/Ms. Sandy Shwalb
(617)482-2299
(617)482-4886 FAX

Childs, Bertman, Tseckares & Casendino, Inc.
306 Dartmouth Street
Boston, MA 02116
Mr. Richard Bertman/Mr. Alfred Wojciechowski
(617)262-4354
(617)236-0378 FAX

Hotel Operator:

Inter-Continental Hotels Group
1120 Avenue of the Americas
New York, NY 10036
Mr. J. Williams Bagwill, III
(201)307-8604
(201)307-8601 FAX

Lender: It is anticipated that funding for the Project will be provided by a taxable bond issued through the Boston Industrial Development Finance Authority. Credit to enhance the bond sale will be provided by a major lending institution.

Other Project Consultants:

Historical Consultant: Ms. Margaret Henderson Floyd

Traffic Consultant: Vanasse Hangen Brustlin, Inc.

Structural Engineer: Engineers Design Group, Inc.

Mechanical Engineer: Cosentini Associates

Geotechnical Engineer: Haley & Aldrich

(b) The Owner and Developer is an affiliate of The Beal Companies and has been involved in Boston real estate for over 100 years. Projects owned or developed by the company include the Grain Exchange Building, 79 Milk Street, the Batterymarch Building and 15 Broad Street.

2. Legal Information

(a) The Project will be owned by Beal Properties CH Limited Partnership, which will in turn be owned by principles of the Beal Companies, Inter-Continental Hotels Group and the East Stream Limited Partnership or its Partners.

(b) There are no existing legal judgements or actions pending concerning the Project.

(c) There is no history of tax arrears on property owned in Boston by Beal Properties CH Limited Partnership. There is no history of tax arrears on property owned in Boston by The Beal Companies.

(d) The Project consists of three separate parcels. 131 State Street is an existing 11 story office building owned by the East Stream Limited Partnership. East Stream Limited Partnership will contribute 131 State Street to the Project. The Custom House is owned by the Boston Redevelopment Authority, who will lease the land for 80 years to the Project. The portion of India Street adjoining the properties will be leased to the Project under the Custom House ground lease.

3. Financial Information

(a) The development and operating proformas for the Project are included in Exhibit I.

(b) Names and addresses of all individuals who are financially involved with the Project are included in Exhibit II.

(c) The Bank reference for the development entity and the East Stream Limited Partnership is the State Street Bank & Trust, 225 Franklin Street, Boston, MA, Attention: Mr. Charles Dahm. For Inter-Continental Hotels Group, please contact CitiBank, 399 Park Avenue, New York, NY. Attention: Ms. Brenda Morissette (212)559-4198.

(d) 131 State Street Realty Trust is the owner of 131 State Street, East Stream Limited Partnership is the beneficiary of the Trust. Currently, Bank of New England holds a mortgage for $15,873,500 and East Stream Limited Partnership has equity of $15,000,000 in the project. The Partnership will pay off the BNE debt at construction closing and fold their equity into the Project.

4. Project Area

Attached hereto are the metes and bounds description of the two building parcels included in the Project. 131 State Street incorporates the block between India, State, Broad and Central Streets. The Custom House is bordered by McKinley Square, State, India and Central Streets. India Street bisects the two buildings.

(a) 131 State Street - A certain parcel of land, together with the buildings and improvements thereon and appurtenances, thereto, known as and numbered 131 State Street, Boston, Suffolk County, Massachusetts, being found and described as follows:

NORTHERLY, by State Street, Ninety-One and 53/100 (91.53) feet.

EASTERLY, by India Street, by two courses Forty-Four and 00/100 (44.00) feet and One Hundred Six and 17/100 (106.17) feet.

SOUTHERLY, by Central Street, Eighty-Five and 44/100 (85.44) feet.

WESTERLY, By Broad Street, One Hundred Sixty-Four and 45/100 (164.45) feet.

(b) Custom House - A certain parcel of land situated on State Street, Boston, Suffolk County, Massachusetts, being bound and described as follows:

SOUTHWESTERLY, by the northeasterly line of the property at 1-9 India Street and an extension of said line to the center line of State Street.

NORTHWESTERLY, by the center line of State Street, as that line is also a boundary of an existing B-8 district.

NORTHEASTERLY, by the southwesterly line of the property at 177-179 State Street/74-76 Central Street and extensions of said line to the center lines of State Street and Central Street.

SOUTHEASTERLY, by an extension of the center line of the segment of Central Street that lies northeast of McKinley Square, to the northeasterly line of the property at 11-21 India Street.

SOUTHWESTERLY, by the northeasterly line of the property at 11-21 India Street and an extension of said line to the property line of 1-9 India Street.

5. Public Benefits

(a) The Project is estimated to contribute over $875,000 for housing and job training. The Project is estimating housing payments of approximately $729,750 and payments of approximately $145,950 for the Jobs Contribution Grant.

(b) Property tax revenues generated by the Project are estimated at $550,000 annually, plus the city will receive a 10% interest in available cash flow. Current tax revenues on 131 State Street are approximately $500,000.

(c) Employment projections during the construction period are estimated at approximately 300 jobs over a two year period. Hotel operations project a creation of 300 +/- permanent jobs.

(d) The Project will use its best efforts to adhere to the guidelines established by the Boston Jobs Policy Requirements of hiring 50% Boston residents, 25% minorities and 10% of women for construction jobs in person-hours worked.

(e) The hotel operator has committed to use their best efforts to comply with the Boston Jobs Policy Requirement and the First Source Agreement for permanent hiring.

6. Regulatory Controls and Permits

(a) The Project is currently located in a zone that permits the three story addition to 131 State Street with a height limitation of 155 feet. No zoning relief is therefore requested.

(b) The Project filed an ENF (Environmental Notification Form) under the Massachusetts Environmental Protection Act and received favorable comments from the Executive Office of Environmental Affairs. EOEA has determined that an Environmental Impact Report is not required. The Project must seek an approval from the Boston Landmarks Commission, the Massachusetts Historical Commission and the National Advisory Council on Historic Preservation as the Custom House is a designated landmark. Approvals must also be obtained from the Public Improvement Commission to allow India Street to be reconfigured. These applications are in process. Other approvals may be required, such as a sewer permit, fuel storage permit, etc.

7. Community Groups

(a) A list of abutters is included in Exhibit III.

(b) A list of public meetings is included in Exhibit IV.

B. TRANSPORTATION COMPONENT

B. TRANSPORTATION COMPONENT

The Transportation Access Plan was completed by Vanasse Hangen Brustlin, Inc. According to the study, the overall impact to peak commuter traffic is limited due to three factors. First, most of the trips generated are non-work related and take place in non-peak hours. Second, because of their varied work hours, many employees will travel in non-peak hours. Finally, the proposed hotel will eliminate existing office space, thereby reducing peak hour demands.

Draft Transportation Access Plan

Custom House and 131 State Street

Boston,
Massachusetts

Prepared for The Beal Companies
Boston, Massachusetts

Prepared by Vanasse Hangen Brustlin, Inc.
Watertown, Massachusetts

June 1991

DRAFT TRANSPORTATION ACCESS PLAN

CUSTOM HOUSE AND 131 STATE STREET
Boston, Massachusetts

Prepared for:
The Beal Companies
Boston, Massachusetts

Prepared by:
Vanasse Hangen Brustlin, Inc.
Engineers, Planners, and Scientists
101 Walnut Street
P.O. Box 9151
Watertown, Massachusetts 02272

June 1991

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INTRODUCTION

This report discusses the transportation impacts of the proposed redevelopment of the Custom House tower and the 131 State Street office building in downtown Boston to a hotel. At the time of the analysis, the Custom House was vacant and 131 State Street was partially occupied. The analysis presented in this report updates previous work presented in two Custom House Tower Transportation Access Plans prepared for The Beal Companies and Custom House Tower Associates in 1988. The data used in this report were based on these previous studies (which involved different development proposals) and were updated or supplemented where necessary. Analyses were performed for existing and future conditions to estimate the project's impacts in terms of vehicle, transit, and pedestrian trips and parking demand. Analyses for the 1994 forecast year were conducted for No-Build and Build conditions. In addition to weekday commuter peak hours, the Saturday peak hour was also analyzed for traffic conditions. In both cases, other projects which are expected to be completed by the 1994 analysis year have been included in the assessment of future conditions. The work herein is based on the scoping determination made by the Boston Redevelopment Authority (BRA) and the Boston Transportation Department (BTD).

SUMMARY OF FINDINGS

On a daily basis, the proposed 340-room hotel is expected to generate a total of approximately 1,600 new vehicle trips. Approximately 90 of these trips are expected to occur in the morning peak hour and approximately 140 are expected in the evening peak hour. Five intersections in the vicinity of the project site were analyzed for traffic impacts. The addition of project-generated trips is expected to have no significant effect on levels of service and delays for traffic in 1994.

The project will create a net new demand of 53 parking spaces during the midday peak parking period. This demand is expected to be met by the areawide surplus of public parking. The proposed development is located within easy walking distance of three of the MBTA's four rapid transit lines which provide connections to the fourth rapid transit line, express buses, and commuter rail. It is also within walking distance to commuter boats and the airport water shuttle. The project is expected to generate approximately 532 daily transit trips. During the morning and evening commuter peak hours, however, transit trips are expected to decrease because the proposed hotel will generate fewer peak hour trips than the existing office space on the site. Thus, the proposed project is expected to have no adverse impact on peak-period transit services.

THE DEVELOPMENT PROPOSAL

The Custom House and 131 State Street development program involves redeveloping the existing structures into a 340-room luxury hotel (including restaurants and function rooms) and a 2,000 square-foot museum. An elevated walkway over India Street is proposed between the two buildings to provide a safe and efficient pedestrian pathway. No on-site parking is proposed for the project, but valet parking will be provided at a nearby parking lot and garage.

The project site is comprised of two parcels currently occupied by the Custom House tower and 131 State Street building. The Custom House is currently vacant and the 131 State Street building contains 70,000 square feet of occupied office space (out of a total of approximately 100,000 square feet). As shown in Figure 1, the site is bounded by McKinley Square to the east, Central Street to the south, Broad Street to the west, and State Street to the north. The two existing buildings are separated by India Street which runs north-south between them. Government Center, Quincy Market, and the New England Aquarium are all in the vicinity of the site. The proposed MBTA Aquarium Station and Central Artery construction projects will be relatively near the project site.

STUDY AREA

The study area defined for this project is bounded by State Street to the north, the Surface Artery to the east, Central Street to the south, and Broad Street to the west. Five intersections have been designated as analysis locations to measure the traffic impacts of the project. The analysis intersections are illustrated in Figure 1.

Public transportation in the area is well developed and utilized. The MBTA's four rapid transit lines may be directly accessed from five stations within 2,500 feet of the site, the closest being the Aquarium (Blue Line) and State (Orange and Blue Lines) stations. Commuter rail service from South Station and North Station, commuter boats, and express buses to the north, south and west are all accessible within one-half mile of the site.

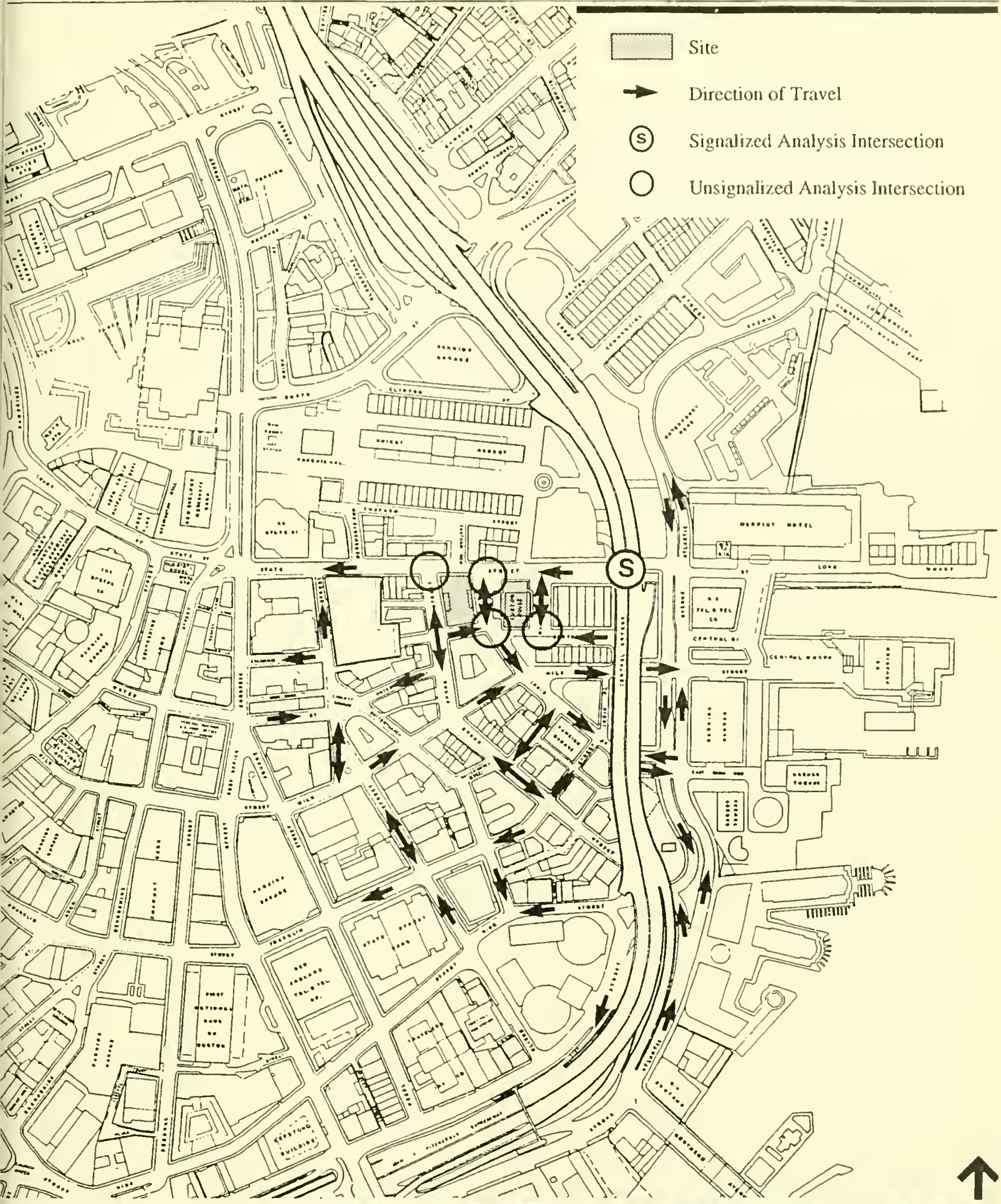
The project site is also within walking distance of several public parking facilities. The major parking garages in the vicinity of the site include the Post Office Square, Aquarium, Marketplace Center, 75 State Street, and Clinton Street facilities.

STUDY METHODOLOGY

This transportation study was conducted in three phases. Phase I involved an inventory of existing conditions and travel demand characteristics in the area. The inventory included researching previous transportation reports as well as conducting new observations of area travel demands. The data used for this study were mainly based on two Custom House Tower Transportation Access Plans prepared in 1988 for different development proposals.[1] Additional data were collected as necessary to update and supplement the available data.

1/ 1. Transportation Access Plan, Custom House Tower Redevelopment, for The Beal Companies, February, 1988.

2. Transportation Access Plan, Custom House Tower Redevelopment, for Custom House Tower Associates, February, 1988.


Site
Direction of Travel
Signalized Analysis Intersection
Unsignalized Analysis Intersection
S

Vanasse Hangen Brustlin, Inc.

Study Intersections
and Area Circulation

Figure 1

Observations of traffic, parking and pedestrian volumes were conducted in March and April, 1991 and included weekend traffic counts. In addition, transit line performance and ridership were assessed. Data collected during the inventory phase were assembled and used to define the existing transportation network as a base condition for subsequent analyses.

Phase II of the study built upon the data base assembled in Phase I and established the framework for evaluating the transportation impacts of the proposed project. In this phase, specific travel demand forecasts for the project were assessed along with future demand projected to be created by other area development. Estimates were made for three travel modes: automobile, transit, and pedestrian. The year 1994 was selected as the analysis year based on the projected occupancy of the project.

Phase III, the final study phase, included evaluation of the project's long- and short-term (during construction period) impacts on the transportation, parking, and loading systems. Measures to mitigate impacts were identified.

RAFFIC

The existing roadways within and adjacent to the study area consist of both local and arterial streets. An inventory of roadway characteristics and traffic volumes was compiled as part of the Phase I data collection process.

Roadway Network

In addition to State Street, roadways in the area which will provide access to the immediate site include Broad Street, India Street, McKinley Square, and Central Street. Access to and from the regional highway system is provided by the Surface Artery, State Street, and Broad Street. Figure 1 presented previously illustrates the roadway circulation pattern now existing in the area. The following provides a brief summary of roadway characteristics:

- Surface Artery - a major north/south artery east of the site running under the elevated Central Artery. It is a divided roadway providing two travel lanes and one parking lane in each direction.

- State Street - a major connector between the Surface Artery/waterfront and the northern Financial District/southern Government Center area. This 32-foot roadway (average width) is one-way westbound and generally provides two travel lanes plus some parking/loading space.

- India Street - a one-way street from Central Street at the redevelopment site to the Surface Artery. India Street widens and provides two-way travel adjacent to the site between Central Street and State Street. On-street parking is provided on both sides. It generally serves to provide access to abutting properties as well as to the Surface Artery from State Street.

- Broad Street - a two-way street between the Surface Artery and State Street which serves retail, restaurant, office, and warehousing uses. The roadway, which is generally about 50 feet in width, carries one moving lane in each direction with parking permitted on both sites. Traffic on this roadway has the right-of-way at all intersecting side streets except at State Street (STOP sign control) and at the Surface Artery (traffic signal control).

- Central Street - a low-volume local street which provides one-way westbound travel between the Surface Artery and India Street (adjacent to the Custom House tower) and one-way eastbound travel between India and

Broad Streets (adjacent to 131 State Street building). Parking is permitted on both sides west of India Street and loading is permitted on both sides between McKinley Square and the Surface Artery.

- McKinley Square - a low-volume, two-way local street adjacent to the Custom House tower which serves as a connector between State Street and Central Street. Some parking serving local uses is permitted.

Traffic Volumes

Manual and mechanical recorder counts were conducted by Vanasse Hangen Brustlin, Inc. (VHB) in March 1991 to supplement and update available traffic information. The traffic data collected for this report include the following:

- Twenty-four (24) hour weekday and weekend counts on State Street west of Commercial Street and on Broad Street south of State Street.
- Weekday morning and evening peak period turning movement counts at the intersection of State Street and Surface Artery.
- Weekend peak period turning movement counts at all five study area intersections.

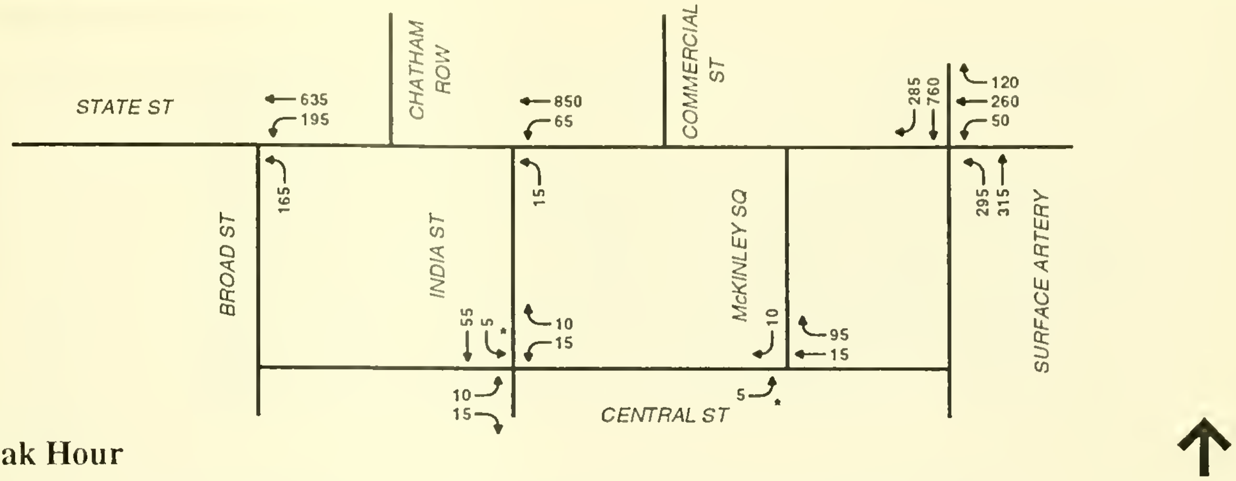
The weekday morning and evening peak hour traffic networks were based on 1987 traffic networks from the previous Custom House Tower Transportation Access Plans. The volumes from the 1987 networks were adjusted to reflect the existing traffic conditions in the area, using the data described above and morning and evening peak hour turning movement counts taken at the intersection of State Street and the Surface Artery in the fall of 1990.

Comparison of 1987 traffic volumes with the more recent counts indicates that recent State Street traffic volumes are approximately 35 percent higher in the morning peak hour and approximately 10 percent lower in the evening peak hour than the 1987 volumes. The Surface Artery showed a small increase in both morning and evening peak hour traffic. Traffic on Broad Street has increased moderately in the morning peak hour and substantially in the evening peak hour. Figure 2 presents the morning and evening peak hour traffic volume networks used for this study.

The mechanical traffic counts conducted on State Street and Broad Street were used to identify the weekend peak period. These counts indicated that study area traffic is generally higher on Saturday than Sunday and that Saturday traffic peaks between 2:00 and 4:00 PM. The weekend traffic network was developed from the Saturday peak hour turning movement counts and is also presented in Figure 2.

Level-of-Service Analysis

To assess the ability of an intersection to process traffic, an existing conditions operations analysis was performed. To measure the quality of traffic operations, the five study area intersections were analyzed with regard to capacity and



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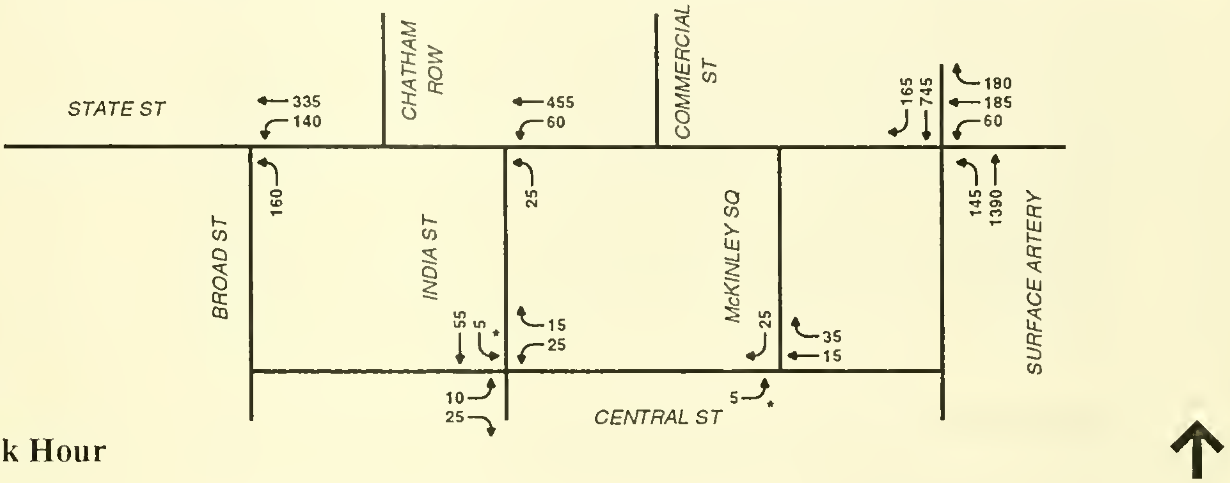

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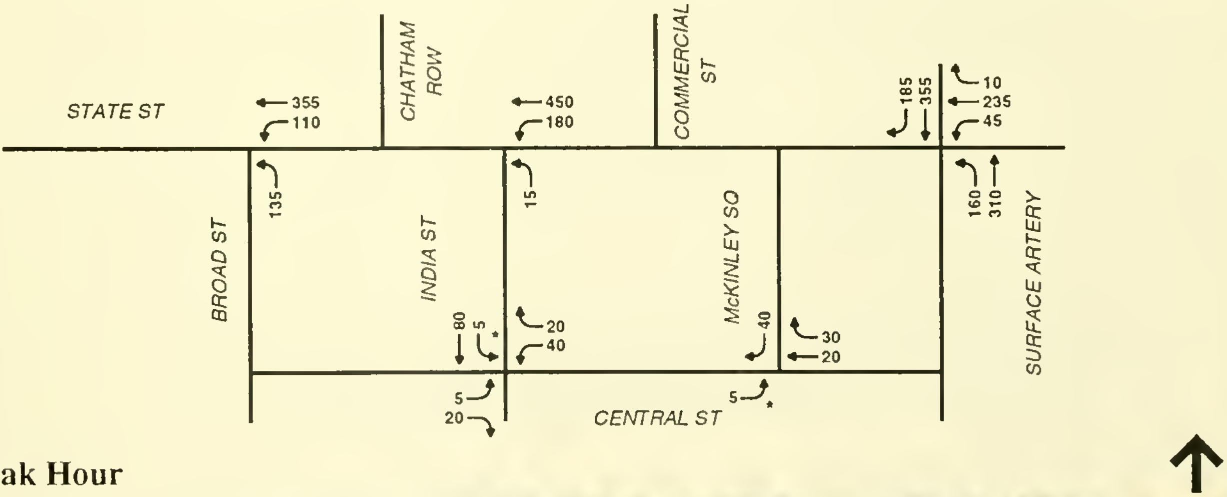


Illegal Move

/eekend Peak Hour

Vanasse Hangen Brustlin, Inc.

Existing
Traffic Volumes

Figure 2

delay. These intersections were specified in the scope issued by the Boston Redevelopment Authority.

A primary result of capacity analysis is the assignment of a level-of-service (LOS) designation to transportation facilities under various traffic flow conditions. Level-of-service is defined as a qualitative measure describing operating conditions within a traffic stream and their perception by motorists and/or passengers. A level-of-service definition generally describes these conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. In so doing, it provides an index to the quality of traffic flow.

Signalized Intersection Level-of-Service Analysis Procedure

Levels of service for signalized intersections are calculated using the operational analysis methodology of the 1985 Highway Capacity Manual (HCM).[2] This method assesses the effects of signal type, timing, phasing, progression, vehicle mix, and geometrics on delay. Level-of-service designations are based solely on the criterion of the calculated average stopped delay per vehicle, since delay is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. Table 1 summarizes the relationship between level of service and delay for signalized intersections. The tabulated delay criteria may be applied in assigning level-of-service designations to individual lane groups, intersection approaches, or to entire intersections. Throughout this report, delays are reported for entire intersections.

Table 1 LEVEL-OF-SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

Level of Service	Stopped Delay per Vehicle (seconds)
A	≤5.0
B	5.1 to 15.0
C	15.1 to 25.0
D	25.1 to 40.0
E	40.1 to 60.0
F	>60.0

Source: Highway Capacity Manual, Special Report 209, Transportation Research Board, Washington, DC (1985).

Level of service can range from A to F. At LOS A, the intersection operates at free-flow conditions. Typically, the intersection approach appears quite open and turning movements are made easily. Seldom, if ever, does a driver have to wait though more than one red light. Levels-of-service B through D represent increasingly restricted movement and greater delay. Level-of-service D or better

---

2/ Highway Capacity Manual, Special Report 209, Transportation Research Board, Washington, DC (1985).

is generally considered acceptable in urban areas. An intersection operating at LOS E is characterized by backups or queues of vehicles waiting to pass through the intersection. Capacity represents the maximum number of vehicles that can be processed during a give time frame, usually one hour. At capacity conditions, vehicles are always waiting on approach roadways. In this situation, some motorists may experience significant delays. Numerous intersections in the Boston metropolitan area operate at capacity during peak periods. Level-of-service F describes operations with average delay in excess of 60 seconds per vehicle. These delays are considered unacceptable to most drivers, and represent situations where volumes are in excess of capacity.

These calculated delays cannot be directly related to intersection capacity. It is possible to have delays in the Level-of-service F range without exceeding capacity. This is possible if one or more of the following conditions exist:

- Long signal cycle lengths
- A particular traffic movement experiences a long red time
- Progressive movement for a particular lane group is poor

For the reasons stated above, both capacity and level of service must be carefully examined when analyzing a signalized intersection. The designation of an approach as operating at LOS F does not automatically imply that the entire intersection, approach, or lane group is overloaded, nor does a level of service in the A to E range automatically indicate that there is unused capacity available.

Unsignalized Intersection Analysis Procedures

Level of service for unsignalized intersections is determined by a procedure described in the 1985 Highway Capacity Manual. Level-of-service for unsignalized intersections is based on the number of acceptable gaps available in the major street traffic flow that may be utilized by minor street vehicles. The procedure accounts for lane configurations on both the minor and major approaches, conflicting traffic stream volumes, and type of intersection control (STOP versus YIELD). First, using a gap analysis procedure, the maximum capacity (or possible flow of vehicles) for each minor approach lane is calculated. These capacities are then compared to the demands. The difference between available capacity and demand is defined as available reserve capacity (ARC) and is used as the criterion for determining level of service and estimating expected delay to minor street traffic. Table 2 summarizes the relationship between reserve capacity, level of service, and expected delay to minor street traffic. Results are given for the critical move; i.e., the move that has the lowest level of service of all moves analyzed.

Table 2

LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

Available Reserve Capacity (passenger cars per hour)	Level of Service	Expected Delay to Minor Street Traffic
400 or more	A	Little or no delay
300-399	B	Short traffic delays
200-299	C	Average traffic delays
100-199	D	Long traffic delays
0-99	E	Very long traffic delays
*	F	Extreme Delays

Source: Transportation Research Board, Special Report 209, Highway Capacity Manual, Washington, DC (1985).

* Demand volume exceeds capacity.

Table 3 presents the existing level-of-service results for the State Street/Surface Artery intersection, and Table 4 presents the results for the four unsignalized analysis locations. Under Existing conditions all study intersections are operating at Level-of-service (LOS) B or better except the intersections of State Street/Broad Street and State Street/Surface Artery in the morning peak hour. The intersection of State Street and the Surface Artery operates at LOS C and at the State Street/Broad Street intersection, the left turn from Broad Street to State Street operates at LOS D.

Table 3

EXISTING STATE STREET/SURFACE ARTERY LEVEL OF SERVICE

Peak Hour	V/C*	Delay**	LOS***
Morning	0.70	20	C
Evening	0.78	12	B
Weekend	0.33	9	B

* Volume-to-capacity ratio.

** Average stopped delay per vehicle in seconds.

*** Level of service.

Table 4 EXISTING UNSIGNALIZED INTERSECTION LEVEL-OF-SERVICE SUMMARY

Location/(Move)	Peak Period	ARC*	LOS**
India/State (NB Left)	AM	312	B
	PM	477	A
	Weekend	538	A
Broad/State (NB Left)	AM	132	D
	PM	372	B
	Weekend	412	A
India/Central (WB Left)	AM	1,062	A
	PM	1,059	A
	Weekend	960	A
McKinley/Central (SB Right)	AM	1,211	A
	PM	1,182	A
	Weekend	1,203	A

* Available reserve capacity.
** Level of service.

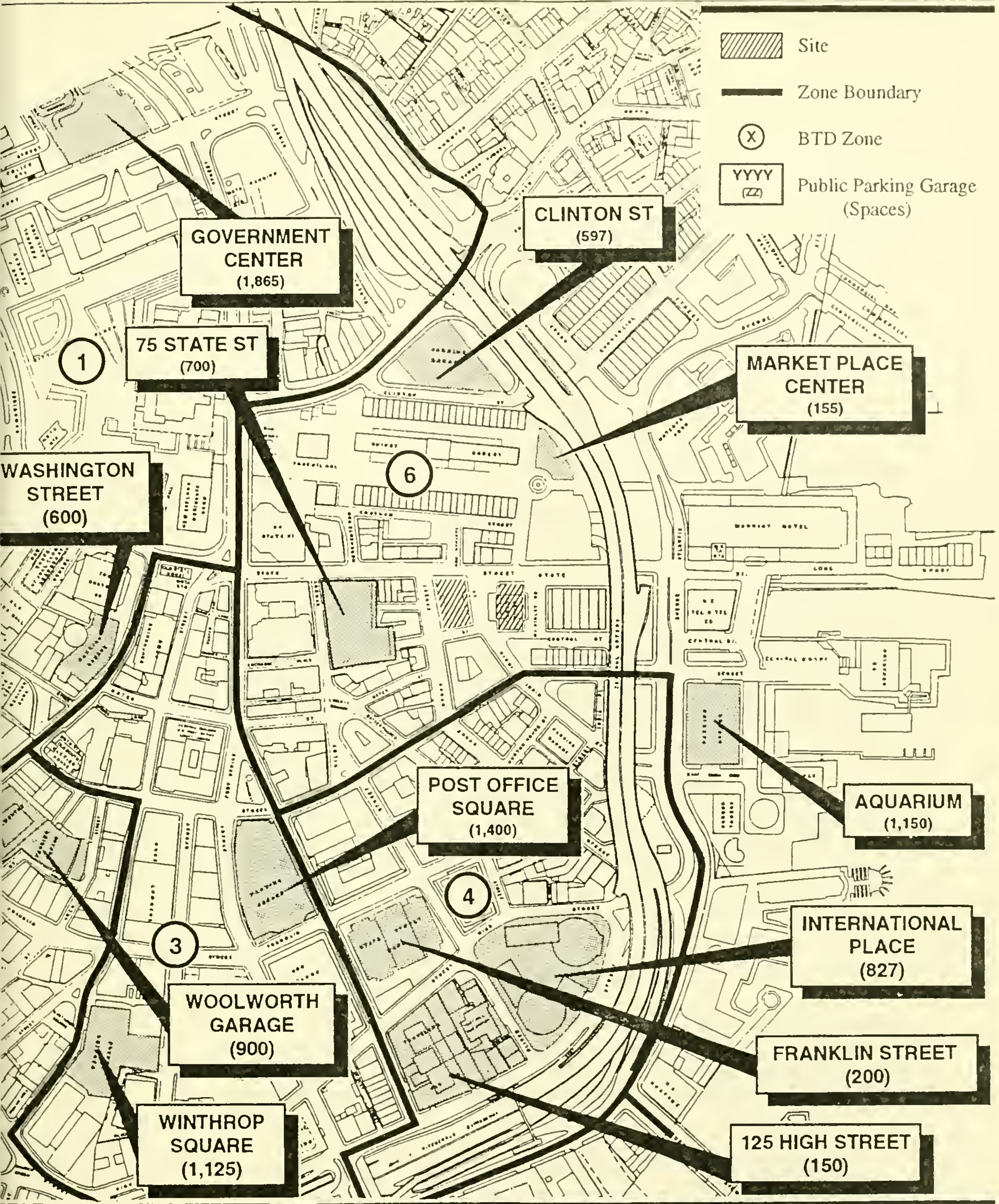
PARKING

Off-Street Parking Supply and Utilization

The analysis of the area's off-street parking supply and utilization was based on the Boston Transportation Department's 1987 Downtown Boston Parking Inventory Survey.[3] The parking supply located within a reasonable walking distance of the site is within BTD parking zones 1, 3, 4, and 6, which are shown in Figure 3.

A review of the public parking Zones 1, 3, 4 and 6 was conducted to determine existing parking supply and utilization. Table 5 presents the off-street public parking supply and demand by zone. A total of 10,246 public parking spaces are available in these zones. Zone 6, where the project site is located, has 2,594 spaces, approximately 25 percent of the total. According to the BTD survey, peak parking utilization occurs at 12:00 noon. As indicated in the table, the parking supply in the four zones was found to be 96.1 percent occupied at 12:00 noon, with 404 spaces available for parking. The occupancy in Zone 6 was found to be 89.6 percent, with 269 parking spaces available.

3/ Downtown Boston Parking Inventory Survey, Boston Transportation Department (July 1987).



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Parking Zones and Major Public Parking Facilities

Figure 3

Table 5 OFF-STREET PARKING SUPPLY AND DEMAND

BTD Parking Zone	Total Off-Street Public Parking Supply	Percent Occupied at 12:00 PM	Spaces Available at 12:00 PM
1	4,354	95.9	178
3	2,591	101.9	-49
4	707	99.2	6
6	2,594	89.6	269
Total	10,246	96.1	404

* Based on Downtown Boston Parking Inventory Survey, Boston Transportation Department, July 1987.

The major off-street public parking garages within walking distance of the project site are shown in Figure 3. Figure 3 includes facilities that have been completed since the 1987 inventory was published. As a result, four additional parking facilities are available for public parking and add 2,652 additional spaces to the supply presented in Table 5. These additional facilities include: International Place (402 spaces), 125 High Street (150 spaces), Post Office Square (1,400 spaces), and 75 State Street (700 spaces).

It should be noted that some garage operators and managers have recently reported that demand has eased significantly due to economic conditions. As a result, additional capacity above that reported in the BTD survey is currently available in the area. No comprehensive surveys of parking utilization throughout the area have been conducted recently to quantify the extent of the reduction in demand.

On-Street Parking Supply and Utilization

There is a limited amount of on-street metered parking in the vicinity of the proposed project. The on-street metered parking supply in the study area is available for short-term parking. Utilization of these spaces was observed to be very high during the day. The on-street metered parking supply near the project site includes:

- India Street - eleven meters between State Street and Milk Street.
- Central Street - eight meters between Broad Street and India Street, and 20 spaces of which only two are metered between Mckinley Square and Surface Artery. The latter area is used principally for loading and unloading activities.
- McKinley Square - six meters on the east side of the street.

- State Street - seven meters between Surface Artery and McKinley Square. The north side of State Street is generally marked for commercial vehicles and does not provide any metered parking.

- Broad Street - two meters between State Street and Central Street.

PUBLIC TRANSPORTATION

The project site is well located in relation to public transportation services. Figure 4 illustrates the existing facilities and services in the area. These include rapid transit lines operated by the Massachusetts Bay Transportation Authority (MBTA), commuter rail lines, commuter boat and airport shuttle, and local and express MBTA bus routes.

Rapid Transit

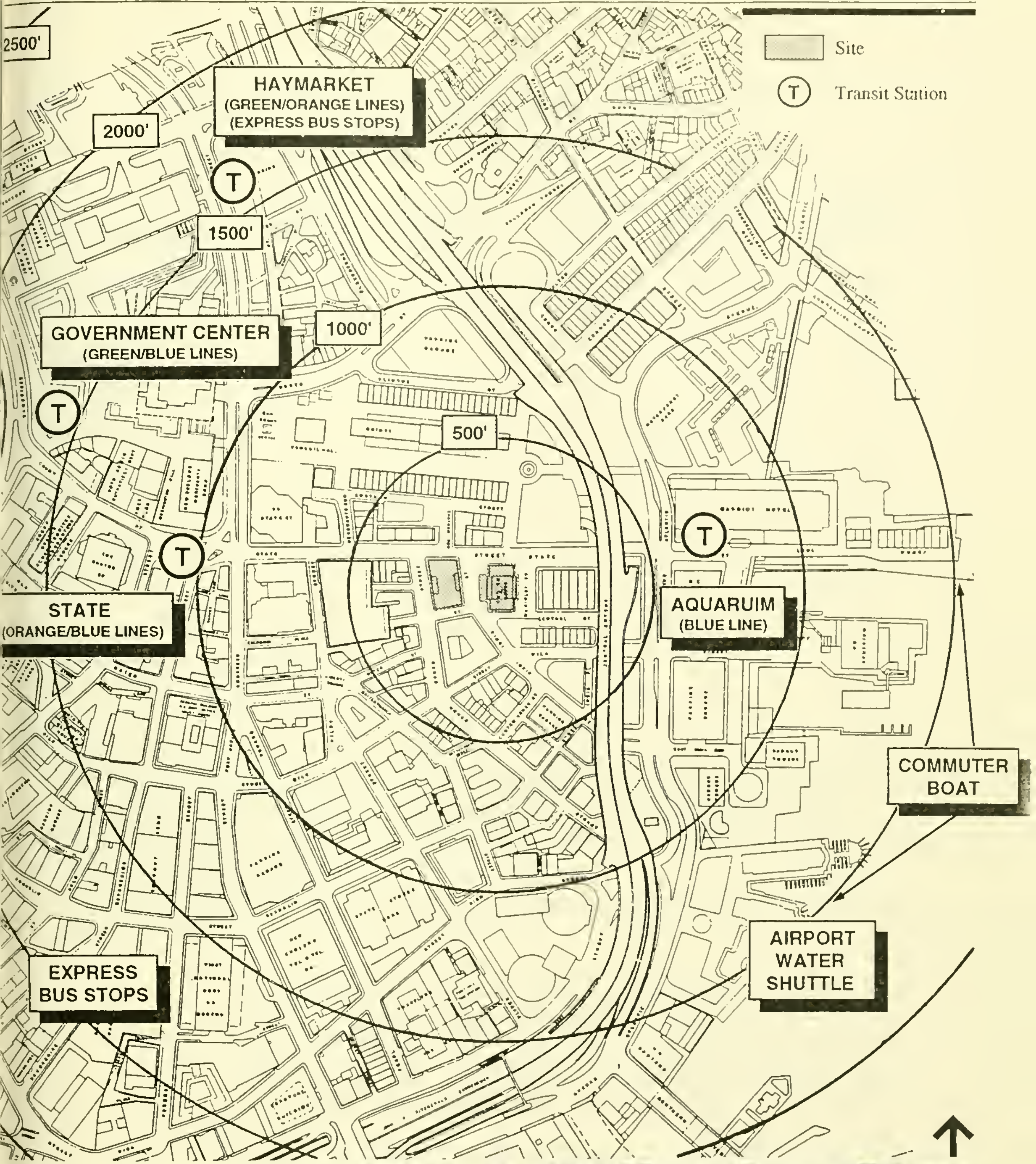
The project site is within walking distance of the MBTA's Blue, Orange, and Green subway lines which provide connections to other transit services such as the Red Line and commuter rail. The Blue Line, which runs northeast through East Boston to Revere, is accessible at the State and Aquarium stations, which are the nearest stations to the site (within 1,000 feet). The Green Line, which runs north to East Cambridge and west to Allston-Brighton, Brookline, and Newton, can be accessed at the Government Center station. The Orange Line, which runs north to Charlestown and the northern suburbs and south through the South End and Roxbury to Jamaica Plain, can be accessed at the State station. The Red Line, which runs northwest to Cambridge and south to Dorchester and Braintree, can be accessed at Washington station or South Station, which are within 2,500 feet of the project site. Alternatively, the Red Line can be accessed via a connection from the Orange or Green Lines.

Transit Capacity

Table 6 shows the service frequency and capacity of each rapid transit line for the peak direction in the evening peak hour. Line capacities are calculated from the car capacities used by the MBTA for planning purposes, although heavier passenger loads are often observed on the system.

Transit Ridership

Analysis of a rapid transit line necessarily focuses on the segment with the highest ridership. The service demand in the heavier ("peak") direction on that peak load segment must be closely monitored and periodically forecasted. This is because demand directly influences the amount of service required and, hence, the operating cost and the size of the vehicle fleet. Passenger trips that do not pass through a peak load segment in the peak direction are of lesser concern because they generally do not affect either the service plan or the budget.



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Location of Public Transportation Figure 4

Table 6 EXISTING RAPID TRANSIT LINE CAPACITY - EVENING PEAK HOUR, PEAK DIRECTION*

Line/Segment	Average Cars Per Train	Average Headway (minutes)	Average No. of Trains	Planning Capacity of Car**	Planning Capacity of Line***
Orange Line/North-South Oak Grove-Forest Hills	6.0	5.0	12.0	155	11,150
Green Line/West Boston College Cleveland Circle Riverside Huntington Avenue	1.7	1.2	50.2	130	11,100
Green Line/North Lechmere Service	2.0	8.0	7.5	130	1,950
Red Line/North Ashmont-Alewife Braintree-Alewife	5.1	4.0	15.0	180	13,700
Red Line/South Alewife-Ashmont Alewife-Braintree	5.2	3.5+	17.0	180	15,900
Blue Line Bowdoin-Wonderland	4.0	3.0	20.0	110	8,800

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* Green Line/West data are based on independent observations by Vanasse Hangen Brustlin, Inc., during the spring of 1990. All other information is from schedules obtained from the MBTA.

** The MBTA uses these capacity estimates for planning purposes. Heavier loads can be carried and are often observed on the system.

*** Rounded to nearest fifty passengers.

+ Southbound service is more frequent than northbound service because two additional southbound trains are scheduled during the peak hour.

To set a foundation for analysis of the impacts of the proposed development on the MBTA rapid transit system, it is necessary to compare peak hour, peak direction ridership with capacity at the system's peak load points. The transit analysis locations, unlike signalized intersection analysis locations, do not depend on the site of the proposed project. When transit impacts occur, they occur on these critical segments, regardless of their distance from the project site.

The MBTA periodically counts in-vehicle passengers at peak load segments. On the Orange Line, for example, the peak load segments are Haymarket-North Station and New England Medical Center-Back Bay Station. On the Green Line, the peak load segments are Arlington-Copley and Science Park-Lechmere. Table 7 compares current ridership with current capacity. At all peak load segments on the system, evening peak hour ridership is within planning capacity.

Table 7

EXISTING RAPID TRANSIT LINE CAPACITY AND RIDERSHIP - EVENING PEAK HOUR, OUTBOUND

Line/Direction (Peak Load Segment)	Planning Capacity of Line*	Ridership at Peak Load Segment**	Ridership as Percent of Capacity
Orange Line/North (Haymarket-North Station)	11,150	8,400	75%
Orange Line/South (N.E. Medical Center-Back Bay Station)	11,150	7,600	68%
Green Line/West (Arlington-Copley)	11,100	10,100	91%
Green Line/North (Science Park-Lechmere)	1,950	1,250	64%
Red Line/North (Kendall-Central)	13,700	7,400	54%
Red Line/South (Broadway-Andrew)	15,900	9,500	60%
Blue Line/North (Aquarium-Maverick)	8,800	6,300	72%

---

* Green Line/West capacity is based on independent observations by Vanasse Hangen Brustlin, Inc., during the spring of 1990. All other capacity information is from schedules obtained from the MBTA (see Table 2).

** Green Line/West ridership figures are taken from independent observations by Vanasse Hangen Brustlin, Inc., during the spring of 1990. All other ridership information is from observations by the Central Transportation Planning Staff in the spring of 1989.

It should be noted that neither service demand nor service delivery occurs uniformly over the peak hour. Often there are surges in demand or gaps in service. In such cases, trains become overcrowded, and some passengers are forced to wait for another train.

Commuter Rail

The MBTA's commuter rail trains operate from North Station and South Station. The system is comprised of nine branches: Rockport/Ipswich, Haverhill/Reading, Lowell, Gardner/Fitchburg, Framingham, Needham, Franklin, Attleboro/Stoughton, and Fairmont/Readville.

Existing evening peak period outbound seating capacity on the commuter rail lines is approximately 19,300, as shown in Table 8. Evening peak period outbound ridership (Spring 1990) is estimated by the MBTA at about 17,200 passengers. The MBTA is continuing to acquire new coaches to serve its

expanding ridership. By 1999, the MBTA expects to increase its commuter rail fleet capacity by 72 percent by acquiring new bi-level coaches.

Table 8

SPRING 1990 EVENING PEAK PERIOD* COMMUTER RAIL LINE SERVICE AND RIDERSHIP

Branch	Number of Trains	Number of Coaches	Total Seat Capacity	Number of Riders**
Rockport/Ipswich	5	26	2,780	2,227
Haverhill/Reading	4	20	2,140	1,627
Lowell	3	16	1,710	1,481
Gardner/Fitchburg	3	16	1,710	886
Framingham	3	21	2,250	1,755
Needham	3	16	1,710	1,503
Franklin	3	22	2,400	2,720
Attleboro/Stoughton	5	36	3,600	4,284
Fairmont/Readville	3	9	1,000	726
TOTAL	32	182	19,300	17,209

Source: MBTA.

* Trains departing between 4:30 PM and 5:55 PM.

** Passenger counts during spring 1990.

Bus Service

The MBTA currently operates seven bus routes that serve the project area. Four of these are express routes serving northeastern suburbs that terminate at the Haymarket station. The other three are local bus routes.

The typical bus used on the express or local routes has a seating capacity of 40 passengers. Its normal carrying capacity (used for service planning) is 60 passengers, although greater loads can be accommodated under crush conditions. Based on the scheduled headways, these bus routes have a total planning capacity of approximately 2,440 passengers per direction in the evening peak hour. Table 9 shows the bus routes, headways, and planning capacity.

Table 9 MBTA BUS ROUTES - EVENING PEAK HOUR

Route	Destination	Scheduled Headway* (Minutes)	Average Buses/Hour	Scheduled Planning Capacity**
Local				
6	Marine Industrial Park - South Station or Haymarket	15	4.0	240
92	Assembly Square-Downtown via Sullivan	13	4.6	277
93	Sullivan Station-Downtown	6	10.0	600
Express				
400	Lynn-Boston via Western Avenue	15	4.0	240
426	Saugus-Haymarket Station	10	6.0	360
440	Lynn-Boston via GE Bridge	10	6.0	360
450	Salem-Boston	10	6.0	360
	TOTAL			2,437

* Winter 1991 schedule.
** Planning capacity is 60 passengers per bus.

In addition to these bus routes, additional express and local bus routes serve South Station, which is located less than one-half mile from the site. These routes serve areas south and west of downtown. Besides MBTA services, four private carriers offer suburban commuter bus service at Haymarket, while five private carriers offer suburban commuter bus service at South Station.

Commuter Boat

A variety of passenger water transportation services provide cross harbor transit for commuters and airport passengers. These services includes:

- Hingham (Hewitts Cove) Commuter Board - The MBTA subsidizes commuter boat service from Hingham, on the South Shore, to Rowes Wharf in downtown Boston. this service, which began in 1984, now consists of approximately 20 daily round trips operated by two carriers, Boston Harbor Commuter Services and Mass Bay Lines.

- Pier 4 Navy Yard - As part of the traffic mitigation program for the Central Artery North Area Project (CANA), a water shuttle operating between the Charlestown Navy Yard and Long Wharf was recently initiated.

- Logan Airport Water Shuttle - Service is provided between Logan Airport and Rowes Wharf on weekdays from 6:00 AM to 8:00 PM at 15-minute intervals. Service is provided on Sunday from noon to 8:00 PM at half-hour intervals, and no service is provided on Saturday.

- Commonwealth Pier (World Trade Center) - Service is provided by a private operator between Commonwealth Pier and Long Wharf for World Trade Center tenants and conference attendees.

- Quincy (Marina Bay) - Seasonal service is provided by a private operator between Quincy and Rowes Wharf for Marina Bay residents with morning and evening peak hour trips.

PEDESTRIANS

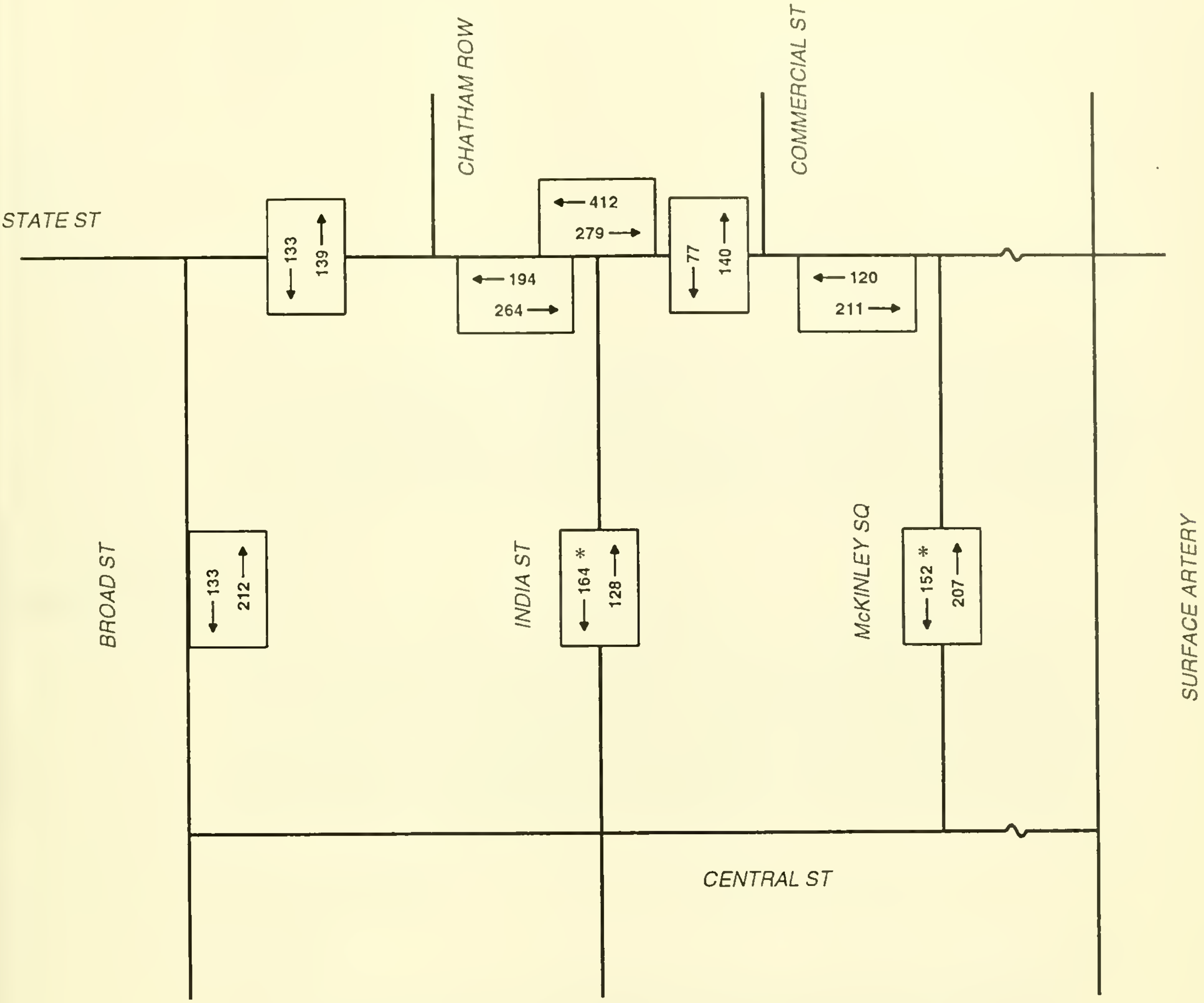
Midday (between 11:30 AM and 1:30 PM) pedestrian counts were conducted by VHB in March, 1991. The counts were taken on sidewalks adjacent to the project site and crosswalks on State Street near the site. These counts were used to assess the existing peak hour pedestrian condition near the project and establish the base condition for assessing the impacts of the proposed project at these locations. The count locations and the midday peak hour counts are presented in Figure 5.

Major pedestrian flows in the area are found on either side of State Street, through McKinley Square, and along India Street and Broad Street. In the morning peak hour the major flows are in a westerly direction towards Congress Street, while in the evening peak hour the major flows are in an easterly direction towards the waterfront. Peak pedestrian activity is around midday, which is consistent with the peak for other downtown Boston locations.[4]

Based on the counts, peak midday pedestrian activity near the site is between 12:30 and 1:30 PM. Under existing conditions the heaviest pedestrian flow (about 690 pedestrians) was observed on the north sidewalk of State Street. Pedestrian flow adjacent to the site along State Street was observed to be lower than the flow along the opposite side of the street. Approximately 290 pedestrians used India Street and approximately 360 pedestrians used McKinley Square. Because McKinley Square and India Street are both relatively wide streets with very low traffic volumes, pedestrians were frequently observed using the street instead of the sidewalks. These pedestrians were included in the counts at those locations.

A quantitative level-of-service analysis of pedestrian flows near the site was not required for this study. However, based on the peak-hour observations, pedestrian flow conditions near the site were found to be acceptable.

4/ Based on New Boston Garden Draft EIR/PIR, VHB, 1990; 110-120 Tremont Street Draft Transportation Access Plan, VHB, 1990; and Milk Street and Broad Street Development, Traffic Impact Study and Access Plan, VHB, May, 1986.



* Pedestrians in street and on sidewalk.

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Existing
Midday Peak Hour
Pedestrian Volumes

Figure 5

FUTURE CONDITIONS

To assess the impacts of the proposed Custom House and 131 State Street project on the transportation system within the study area, travel demand estimates were made for the proposed project. Projected trips were then distributed to the various transportation networks--roadway, transit, and pedestrian. Project impacts (Build condition) were identified by comparison to future conditions without the proposed development (No-Build).

ROJECT TRAVEL DEMAND

Future travel demands were projected for the proposed development, including a 340-room luxury hotel, function rooms, restaurants, and a 2,000 square-foot museum. To determine project traffic impacts, the net increase in vehicle trips expected from the hotel development was projected. Because the proposed development replaces existing office uses in the partially occupied 131 State Street building (the Custom House tower is currently vacant), trips generated by this use were subtracted from hotel generated trips.

Trip Generation

Weekday

Person-trip generation rates, transit use characteristics, car occupancy rates, and temporal distribution were estimated separately for both the existing office use and proposed hotel. Separate projections were also made for work and non-work trips. The sources of travel data for the hotel were surveys completed at the Holiday Inn on Cambridge Street and the Marriott Long Wharf, as reported in the Fan Pier/Pier 4 Final EIR, EOEA # 4426/4584, November, 1986. The sources of travel characteristics for the existing office use at 131 State Street were several recent downtown Boston Transportation Access Plans and EIRs. The trips generated by the 2000 square-foot museum were derived from museum trip generation presented in the Transportation Access Plan for the Custom House Tower Redevelopment, Custom House Tower Associates Boston, Massachusetts, 1988.

To estimate the project's impact on study area traffic, vehicle trips from the existing offices at 131 State Street were subtracted from the vehicle trips generated by the proposed hotel. The trip-generation rates for hotel and office uses are presented in this section. The daily person-trip generation rates for the proposed hotel and existing office uses at 131 State Street are shown in

Table 10. Person-trip generation rates have been classified as work and non-work. Work-related trips are defined as the daily commuting trips to and from the place of work. Non-work trips include all other non-commuting trips made by employees and all trips made by visitors to the site.

Table 10

DAILY PERSON-TRIP GENERATION RATES*

Use	Type	In	Out	Total
Hotel	Work	1.00	1.00	2.00
	Non-Work	5.94	5.94	11.88
	TOTAL	6.94	6.94	13.88
Office	Work	4.40	4.40	8.80
	Non-Work	2.35	2.35	4.70
	TOTAL	6.75	6.75	13.50

* Trip rates are per room for hotel and per 1000 square feet for office.
Source: Fan Pier/Pier 4 Final EIR, EOEA #4426/4584, November 1986.

Table 11 presents the percentage of daily arrivals and departures expected to occur during the morning and evening peak hours. Different peak hour percentages have been applied based on the type of trip (work or non-work), land use, and mode of travel. The majority of trips occurring during the peak hours are work trips made by commuters.

Table 11

PERCENTAGE OF DAILY TRIPS DURING PEAK HOURS

		Work		Non-Work	
Use	Direction	AM Peak	PM Peak	AM Peak	PM Peak
Hotel	In	5%	2%	7%	12%
	Out	1%	6%	8%	9%
Office	In	55%	2%	10%	2%
	Out	1%	55%	1%	10%

Source: Fan Pier/Pier 4 Final EIR.

Table 12 shows the percentage of person trips by mode of travel (mode split) for office and hotel uses. These percentages were derived from previous studies of downtown area developments.

Table 12

MODE SPLIT PERCENTAGES

Use	Type	Travel Mode		
		Auto	Transit	Walk
Hotel	Work	30.0%	70.0%	0.0%
	Non-Work	60.0%	15.0%	25.0%
Office	Work	30.0%	65.0%	5.0%
	Non-Work	27.5%	57.5%	15.0%

Source: Fan Pier/Pier 4 EIR for hotel and One Twenty Five High Street Transportation Assessment and Access Plan, December 1986 for office.

Vehicle occupancy rates (VOR), shown in Table 13, describe the average number of persons per vehicle. These rates are divided into the number of person trips by automobile to derive the number of vehicle trips generated by the site.

Table 13

VEHICLE OCCUPANCY RATES

Use	Type	VOR
Hotel	Work	1.4
	Non-Work	1.5
Office	Work	1.8
	Non-Work	1.4

Source: Fan Pier/Pier 4 Final EIR.

The travel demand characteristics detailed above were applied to the proposed 340-room hotel and the existing 70,000 square feet of occupied office space being replaced to project changes in travel demand generated by the site. Trips for the 2,000 square-foot museum are proportionally based on the trip generation for the 15,000 square-foot museum presented in the Custom House Tower Transportation Access Plan prepared for Custom House Tower Associates in 1988. Net new trips generated by the proposed development were calculated by adding the projected hotel and museum trips and subtracting the trips generated by the existing office space.

The net new vehicle, transit, and walk trips generated by the proposed project are displayed in Table 14. On a daily basis, the project is expected to generate a total of 1,608 new vehicle trips, of which 94 are expected to occur in the morning peak hour and 145 in the evening peak hour. It should be noted that the outbound vehicle trips are greater than inbound vehicle trips in the morning peak hour and inbound vehicle trips are greater than outbound vehicle trips in the evening peak hour. This is as a result of elimination of existing office

vehicle trips which are predominantly inbound in the morning peak hour and outbound in the evening peak hour.

Table 14

NET NEW PROJECT TRAVEL DEMAND

	Auto*	Transit**	Walk**
Daily			
In	804	266	530
Out	804	266	530
TOTAL	1,608	532	1,060
Morning Peak Hour:			
In	29	-86	24
Out	65	24	40
TOTAL	94	-62	64
Evening Peak Hour:			
In	98	37	60
Out	47	-76	35
TOTAL	145	-39	95

* Vehicle trips.
** Person trips.

Although a total of 532 new daily transit trips are expected to be generated by the project, it is expected that the project will reduce transit trips in the morning and evening peak hours by 62 and 39 trips, respectively. Again, this is the result of eliminating the office use which generates more peak hour transit trips than the hotel and museum uses. The project is also expected to generate 1,060 new daily walk trips, including 64 morning peak hour walk trips and 95 evening peak hour walk trips.

Weekend Peak Hour Vehicle Trips

Data regarding weekend travel characteristics for hotels and offices in the Boston area were found to be very limited. Weekend trip generation rates for the proposed hotel and the existing offices were based on Parcel 1B, Harvard Square, Environmental Impact Report (EOEA #03176), 1981. This was felt to be appropriate because the Parcel 1B development (the Charles Square Hotel) is located in Harvard Square and has good access to the Red Line and several other public transportation services, as will the proposed project. Table 15 presents the weekend trip generation rates used and the resulting weekend peak hour vehicle trips generated by the proposed development. As with the weekday

trip generation, the existing office use is deducted to obtain net new impacts. As shown in the table, the project is expected to generate 186 net new vehicle trips during the weekend peak hour. These 186 trips are expected to be evenly distributed between inbound and outbound trips.

Table 15 WEEKEND PEAK HOUR TRIP GENERATION

Use	Size	Daily Person Trip Rate	Auto Mode Share	VOR*	Percent of Daily Trips in Peak Hour In	Percent of Daily Trips in Peak Hour Out	Peak Hour Vehicle Trips In	Peak Hour Vehicle Trips Out
Hotel	340 rooms	11.6**	80%	1.5**	5%	5%	104	104
Museum	2,000 SF						5***	5
Office	-70,000 SF	4.5	64%	1.25	10%	10%	-16	-16
Total							93	93

* Vehicle occupancy rate.
** Adjusted based on weekday hotel trip generation rates.
*** Estimated based on weekday peak hour volume.
Source: Based on Parcel 1B EIR (EOEA #03176), 1981.

TRAFFIC CONDITIONS

Background Traffic Growth

To assess future conditions, it is necessary not only to forecast project-related traffic increases but also to project increases in background traffic. Growth in background traffic is a function of other development activity expected within the area. This growth can be projected by the application of a generalized growth factor or by the assessment of specific development proposals. For this analysis, the projection of background traffic was based on a combination of these two techniques.

A generalized growth factor of 0.5 percent annually (two percent over the period of four years) was applied to traffic on the Surface Artery, State Street, and Broad Street to reflect growth in regional traffic coming into downtown. Projected traffic from specific new developments expected to be completed by 1994 and which would likely impact study area traffic conditions was also included in background traffic. The background developments were selected in consultation with the Boston Redevelopment Authority (BRA) and are presented in Table 16. In addition to these projects, the New Boston Garden and the MBTA's South Station bus facility are also expected to be complete by 1994. These two projects are not included in the analysis, however, because they are replacement facilities which will generate little or no additional peak hour traffic in the study area.

Table 16

1994 BACKGROUND DEVELOPMENTS

Development	Size (SF)	Use
73 Tremont Street	264,000	Office
	13,000	Retail
90 Tremont Street	137,000	Office
	15,000	Retail
	4,000	Day Care
	75,000	Church
	3,500	Restaurant
International Place Phase II	675,500	Office
	51,000	Retail
125 High Street Phase II	1,333,000	Office
	29,000	Retail

Trip Distribution and Assignment

The new vehicle trips projected to be generated by the proposed project and specific background developments were distributed to the transportation system according to the trip distribution pattern shown in Table 17. This is the same distribution pattern that has been established in other major downtown EIRs and Transportation Access Plans.

Table 17

TRIP DISTRIBUTION

Direction	Percent
Northeast	14
North	14
Northwest	9
West	17
Southwest	22
Southeast	24
TOTAL	100

Assignment of project vehicles trips to the local street system in the vicinity of the site was a function of the location of nearby parking garages, the valet drop-off/pick-up at the hotel entrance on India Street, the existing pattern of one-way streets, and access to and from the Central Artery. Approximately 60 valet parking spaces will be provided for hotel use at a surface lot on Chatham Row and in the 75 State Street garage. Due to the one-way street pattern in the

study area, vehicles which are valet parked will travel through some analysis locations more than once. This factor has been included in the development of the Build networks.

Projected 1994 No-Build volumes for the morning, evening, and weekend peak hours are shown in Figure 6. Build volumes for the morning, evening, and weekend peak hours are shown in Figure 7.

Level-of-Service Analysis Results

Analyses were conducted under Existing, 1994 No-Build, and 1994 Build conditions for the five study intersections using the analysis procedures described in Existing Conditions. The results of the analysis for the signalized intersection of State Street and the Surface Artery are presented in Table 18. The analysis results for the critical movement at each of the four unsignalized intersections are presented in Table 19.

Table 18 STATE STREET/SURFACE ARTERY LEVEL-OF-SERVICE SUMMARY

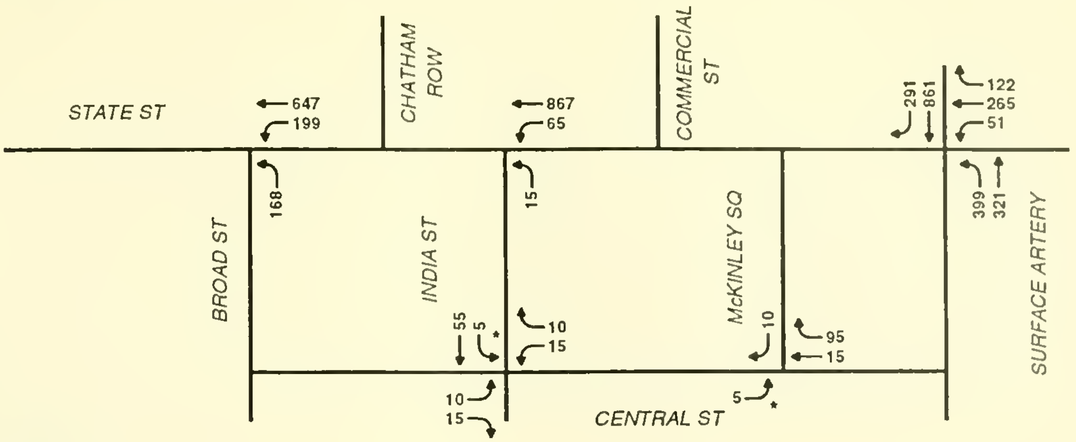
	Existing			No-Build			Build		
Peak Hour	V/C*	Delay**	LOS***	V/C	Delay	LOS	V/C	Delay	LOS
Morning	0.70	20	C	0.94	72	F	0.97	84	F
Evening	0.78	12	B	0.81	13	B	0.89	14	B
Weekend	0.33	9	B	0.34	9	B	0.38	8	B

* Volume-to-capacity ratio.
** Average stopped delay per vehicle in seconds.
*** Level of service.

Table 19 UNSIGNALIZED INTERSECTION LEVEL-OF-SERVICE SUMMARY

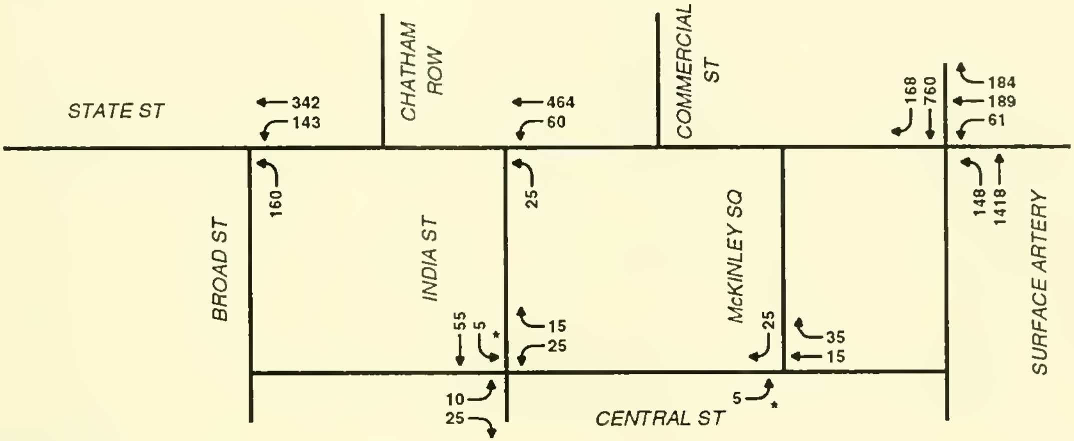
Location		Existing		No-Build		Build	
(Critical Move)	Peak Period	ARC*	LOS**	ARC	LOS	ARC	LOS
India/State	AM	312	B	282	C	232	C
(NB Left)	PM	477	A	470	A	367	B
	Weekend	538	A	531	A	349	B
Broad/State	AM	132	D	98	E	71	E
(NB Left)	PM	372	B	360	B	318	B
	Weekend	412	A	411	A	351	B
India/Central	AM	1,062	A	1,062	A	956	A
(WB Left)	PM	1,059	A	1,059	A	955	A
	Weekend	960	A	960	A	887	B
McKinley/Central	AM	1,211	A	1,211	A	1,211	A
(SB Right)	PM	1,182	A	1,182	A	1,182	A
	Weekend	1,203	A	1,203	A	1,203	A

* Available reserve capacity.
** Level of service.



* legal Move

orning Peak Hour



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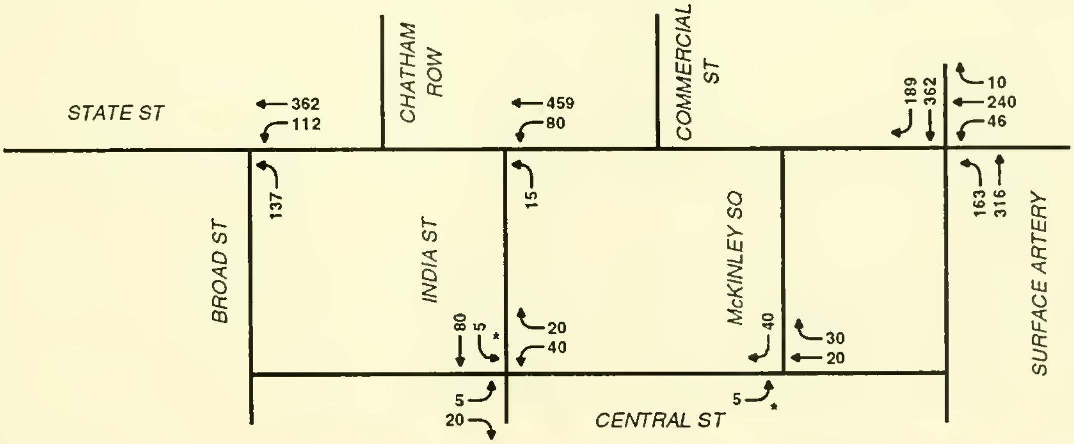

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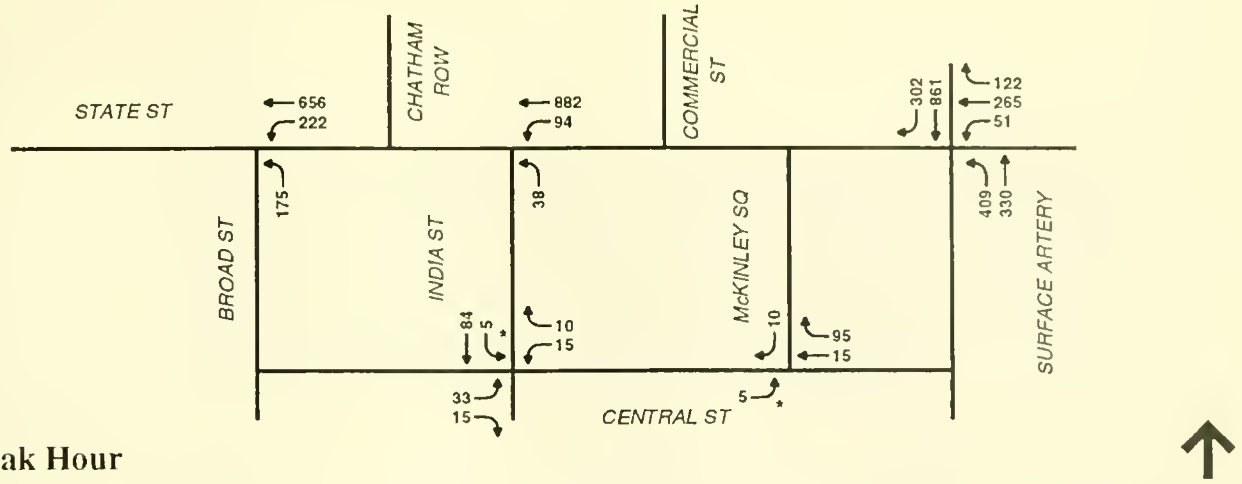
Vanasse Hangen Brustlin, Inc.

1994 No-Build
Traffic Volumes

Figure 6



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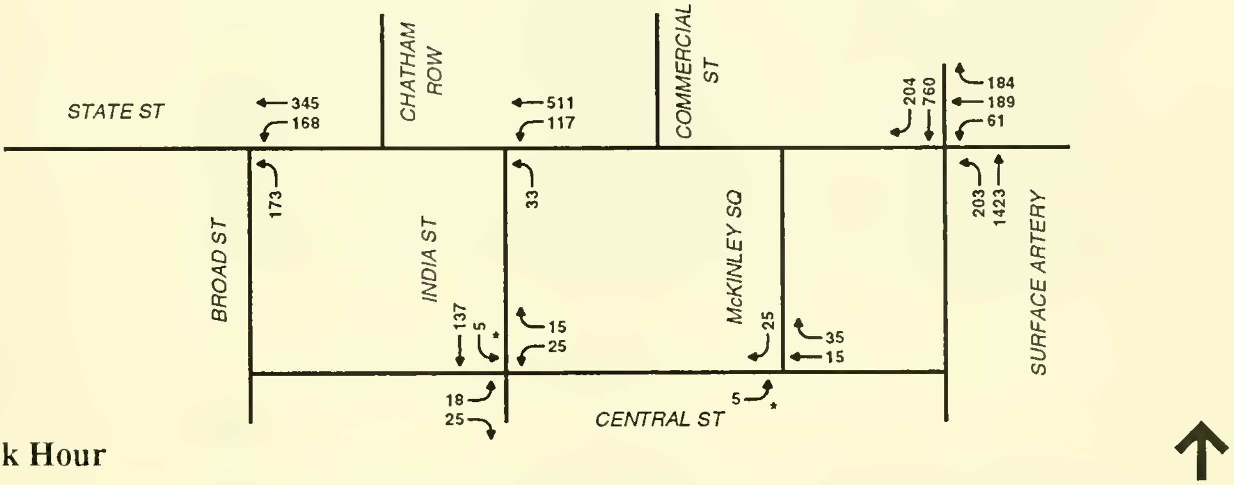

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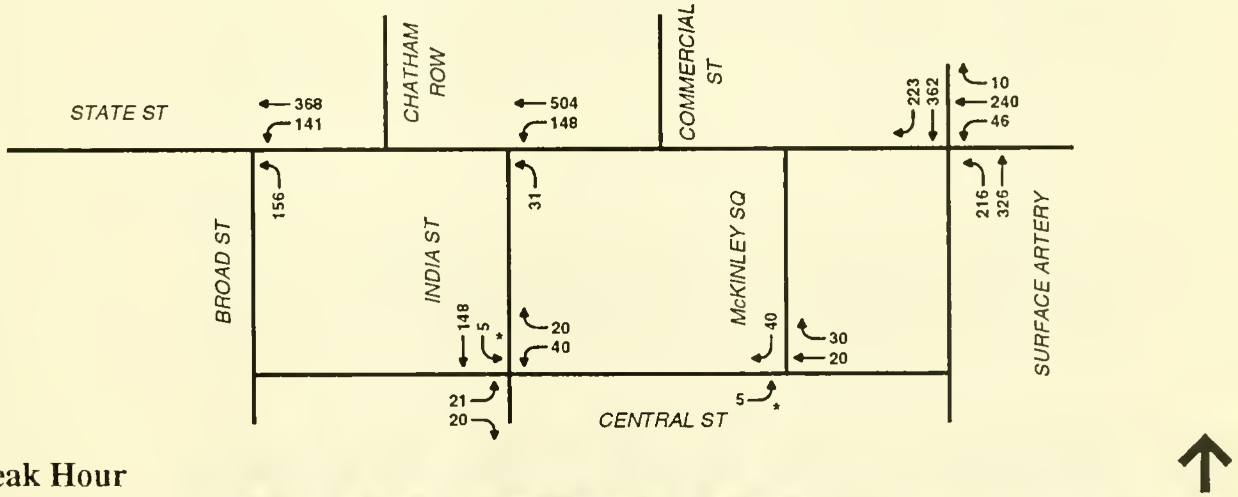

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eekend Peak Hour

Vanasse Hangen Brustlin, Inc.

1994 Build
Traffic Volumes

Figure 7

No-Build

Three intersections will experience a change in level of service under No-Build conditions. The northbound left turn from India to State Street will change from LOS B to LOS C and the northbound left turn from Broad Street to State Street will change from LOS D to LOS E. The intersection of State Street and the Surface Artery is expected to operate at LOS F, a decline from LOS C under Existing conditions. The LOS F at this intersection is largely due to the increases in northbound left-turning traffic from the Surface Artery to State Street and southbound through traffic on the Surface Artery.

Build

Under Build conditions, changes in level of service are expected compared to No-Build conditions. Three unsignalized moves will change from LOS A to LOS B. These include the northbound left turn from India Street to State Street in the evening and weekend peak hours and the northbound left turn from Broad Street to State Street in the weekend peak hour. The intersection of State Street and the Surface Artery will continue to operate at LOS F in the morning peak hour. It should be noted here that analysis of this intersection was conducted using existing signal timings. Changes in the signal timings for this intersection would improve Build traffic conditions. Level-of-service analysis results with signal timing modifications are presented in the mitigation section.

PARKING

Supply

The project proponent proposes to provide approximately 60 spaces for valet parking at a parking lot on Chatham Row and at the 75 State Street garage. The proposed development will not include any on-site parking. As a result of the project, six metered spaces on India Street adjacent to the 131 State Street building will be eliminated.

Demand

To assess the potential impact of the proposed project on future parking conditions, the increased parking demand associated with the proposed project was estimated. The existing parking demand of the offices at the 131 State Street building was subtracted from the projected parking demand for the proposed hotel to estimate the net increase in parking demand.

The parking demand estimation for the proposed hotel was based on Hotel Parking Report, prepared by Cambridge Systematics, Inc., for BTD review, July 1990. The study surveyed hotels in Boston, including the Four Seasons, the Marriott Long Wharf, and the Bostonian, and recommends hotel peak parking demand rates. The hotels surveyed for the study are downtown hotels which are similar to the proposed Custom House hotel development. They are all located near rapid transit stations and two are located fairly close to the Custom House.

The study indicates that the peak parking demand for the hotels occurs in the evening between 8:00 and 9:00 PM. Downtown parking demand in general peaks at 12:00 noon, according to the 1987 Downtown Parking Study conducted by the BTD. The hotel parking demand is considerably lower at 12:00 noon compared to its peak parking demand in the evening. For this study, separate estimates were made for the evening peak parking demand and the midday parking demand for the proposed hotel.

The 2,000 square-foot museum, which is expected to generate only fourteen vehicle trips during the day, is projected to have a parking demand of three spaces during the day, using the typical short-term parking turnover rate of 2.67. The museum will not have any parking demand in the evening as it will be closed. Table 20 presents the parking demand projected for the proposed hotel and museum. As indicated in the table, these uses are expected to generate a demand for 111 parking spaces at noon and 190 spaces between 8:00 and 9:00 PM.

Table 20

PROJECT PARKING DEMAND

	Parking Demand (spaces)	
	At 12:00 Noon	At 8:00 PM
Hotel*	108	190
Museum	3	0
Total	111	190

* Based on Hotel Parking Report, prepared by Cambridge Systematics, Inc. for BTD review, 1990.

Peak midday parking demand associated with the existing offices at 131 State Street is estimated to be 64 spaces, as shown in Table 21. The 168 daily vehicle trips generated by the existing offices will create a demand for 52 long-term spaces (typically all day parking) and 12 short-term spaces for a total demand of 64 parking spaces during the midday peak. It is assumed that the existing offices do not generate any significant parking demand between 8:00 PM and 9:00 PM when the proposed project parking demand would peak.

Table 22 shows that the net new midday parking demand for the project is 53 spaces. This is based on the hotel and museum demand of 111 spaces less the 64 space demand for the existing offices plus a demand for an additional six spaces associated with the six metered spaces that will be eliminated. According to the 1987 BTD survey, there was a surplus of 404 public parking spaces in the area around the site at 12:00 noon (parking zones 1, 3,4 and 6). If the 53 space net new parking demand is absorbed by the area surplus of 404, the result will be a 351 space surplus of public parking spaces. The current surplus is estimated to be larger because 2,652 public spaces have been added since the BTD survey was taken. It should also be noted that area parking operators report a significant decline in parking utilization since the BTD survey. Although no information is available documenting the extent of the decline, it appears a much larger surplus currently exists.

Table 21

EXISTING OFFICE PARKING DEMAND

Trip Type	Daily Vehicle Trips	Daily Vehicles*	Turnover Rate**	Parking Demand
Work Trips	103	52	1.0	52
Non-Work Trips	65	33	2.67	12***
TOTAL	168	85		64

* Number of daily vehicles is half the number of trips. Two trips (one in and one out) are made by each vehicle.

** The parking turnover rate is the number of vehicles using the same space on a given day. Both rates used here are taken from page C-6 of Parking in Central Boston, a 1983 report prepared for the Boston Transportation Department by Cambridge Systematics, Inc., and Vanasse Hangen Brustlin, Inc.

*** Number of spaces may be overestimated because some non-work trips at office buildings are made by workers and thus do not add to parking demand.

Table 22

NET NEW PROJECT PARKING DEMAND

	Parking Demand at	
	12:00 Noon (spaces)	8:00 PM (spaces)
Hotel*	108	190
Museum	3	0
SUBTOTAL	111	190
Demand associated with lost meters	6	6
Subtract existing office demand	-64	-0
NET NEW DEMAND	53	197

* Hotel parking demand based on Hotel Parking Report, prepared by Cambridge Systematics, Inc., for BTD review, 1990.

Although the 1987 Downtown Parking Study did not include evening parking utilization, parking demand is considerably lower after working hours. The project proponent proposes to provide 60 parking spaces for valet parking at a Chatham Row parking lot and 75 State Street garage. It is anticipated that the balance of the hotel's peak evening parking demand can be accommodated by the area's existing parking facilities.

PEDESTRIANS

Background Pedestrian Growth

To assess future pedestrian conditions, it is necessary to project increases in background pedestrian growth as well as pedestrian increases from the project. The background developments discussed earlier under traffic are located far enough from the project that they are not expected to generate any significant pedestrian flows near the site. To account for general growth in pedestrian flows, a generalized growth factor was applied to existing pedestrian volumes. The same factor of 0.5 percent annually used for traffic volume growth was used for pedestrians. Figure 8 presents the 1994 No-Build midday peak hour pedestrian flows.

Project-Generated Pedestrian Volumes and Distribution

Project-generated pedestrian volumes adjacent to the site are the result of three modes of transportation: walk trips, transit trips (between transit stations or stops and the site), and vehicle trips (between parking locations and the site). Midday pedestrian trip generation was based on information in the Parcel 1B EIR, which indicated that the midday peak hour pedestrian volume is 8 percent of the daily total person trips for a hotel and 15 percent of the daily person trips for an office. The 15 percent rate was also assumed to apply to the museum.

As with the parking and traffic analyses, net new pedestrian trips were calculated by subtracting pedestrian trips from the existing offices at 131 State Street from the expected hotel and museum trips. The result is a net increase of 276 midday peak hour pedestrian trips expected to be generated by the project, evenly divided between inbound and outbound trips.

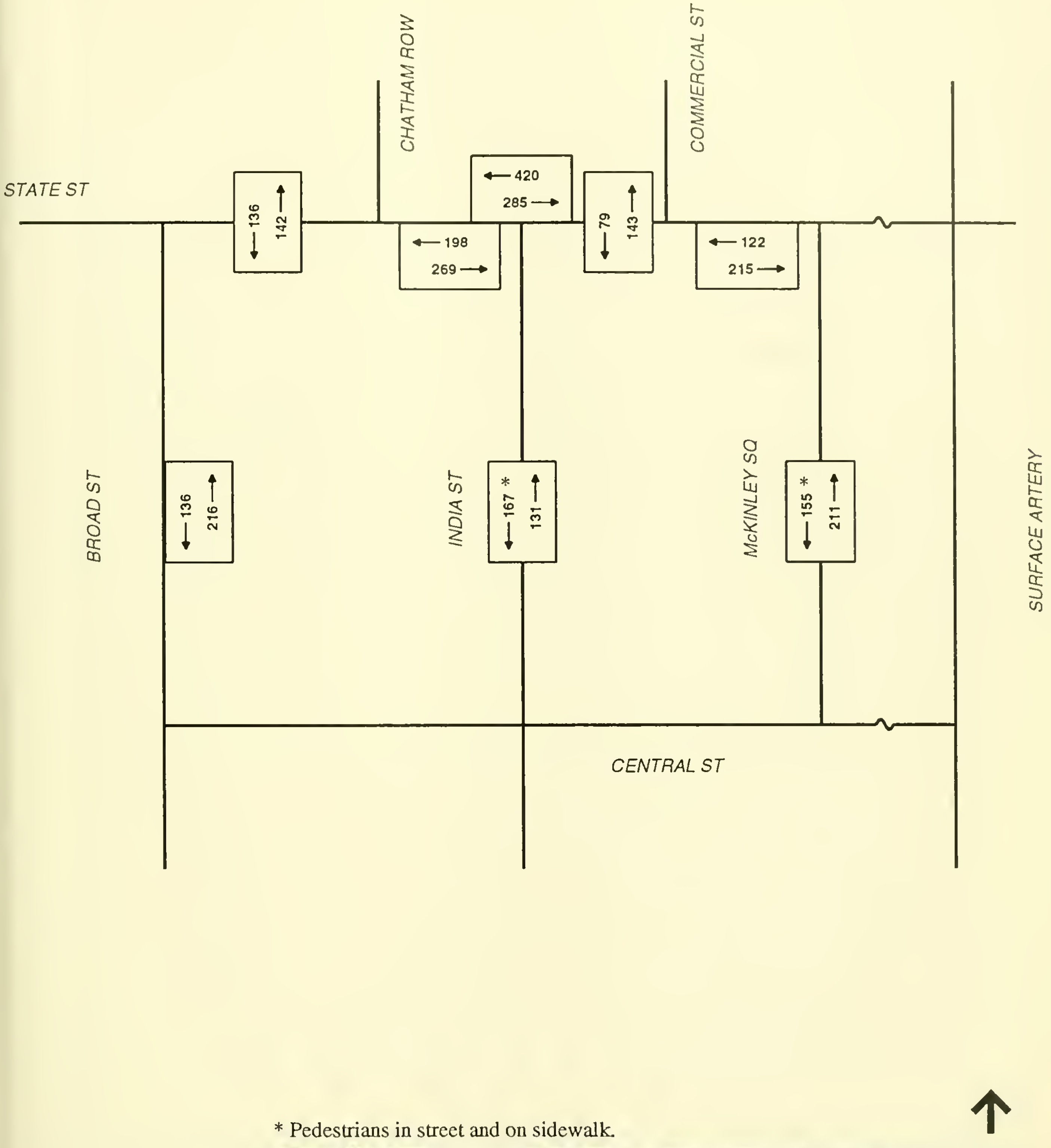
The new pedestrian trips were assigned to the existing pedestrian network based on the location of transit stops, local businesses, and parking facilities. Further, existing pedestrian flow patterns were also considered in the assignment of these trips. Figure 9 presents the 1994 Build midday peak hour pedestrian flows.

As shown in the figure, the pedestrian flow along the north sidewalk of State Street, which is the busiest location under Existing conditions, is expected to increase by 28 pedestrians under Build conditions. The volume along the State Street sidewalk adjacent to 131 State Street is expected to increase by 161 pedestrians and the volume crossing State Street (total of both crossing locations) near the site is expected to increase by 67 pedestrians.

The existing pedestrian flows operate at acceptable conditions based on VHB peak hour observations. It is expected that the increase in the pedestrian volumes due to the project and other background increases will have no significant impact on these conditions.

PUBLIC TRANSPORTATION

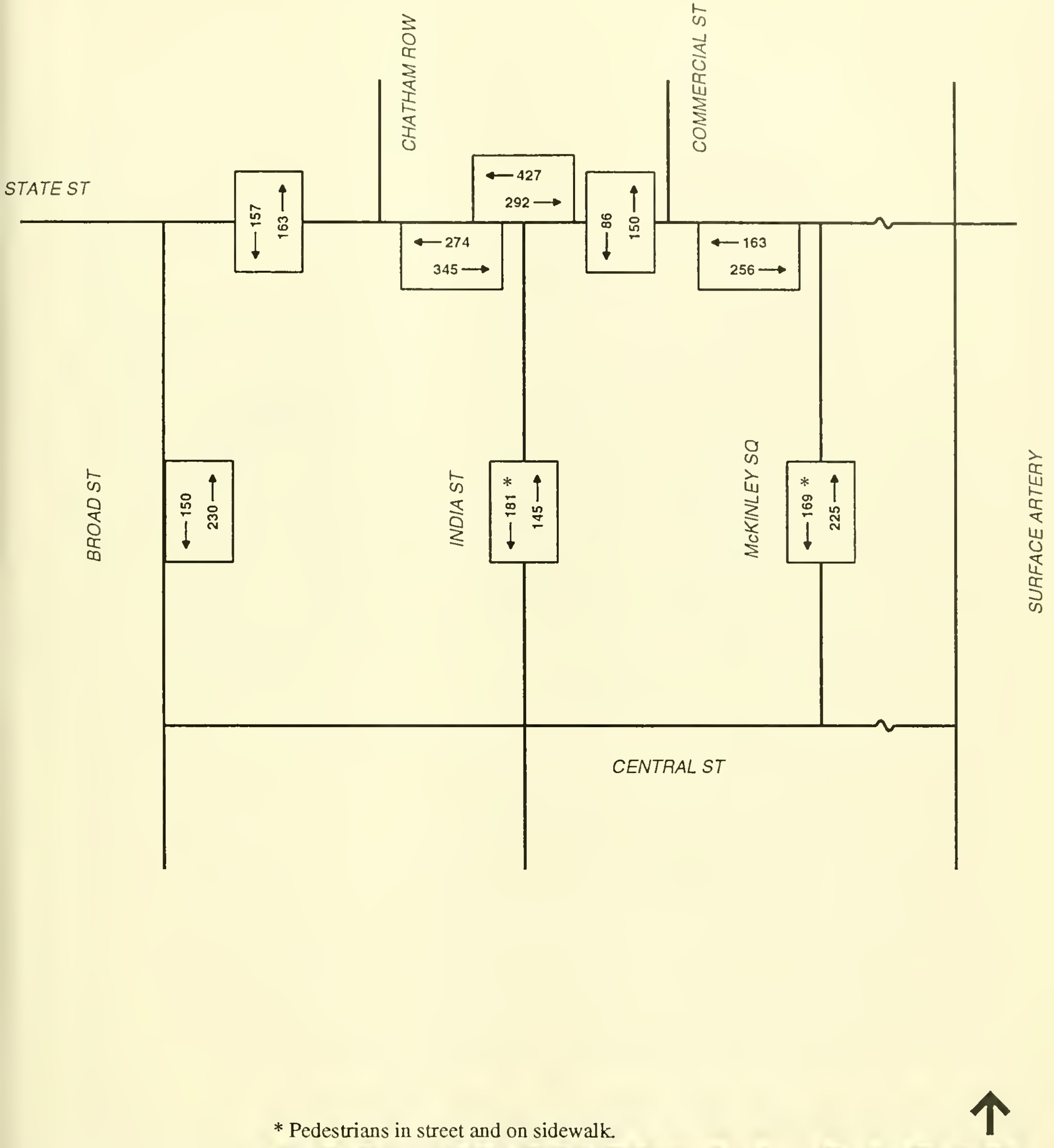
The project is expected to generate a total 532 net new daily transit trips as presented earlier in Table 14. The number of morning and evening peak hour transit trips generated by the site are expected to decrease by 62 and 39 trips,



* Pedestrians in street and on sidewalk.

1994 No-Build
Midday Peak Hour
Pedestrian Volumes

Figure 8

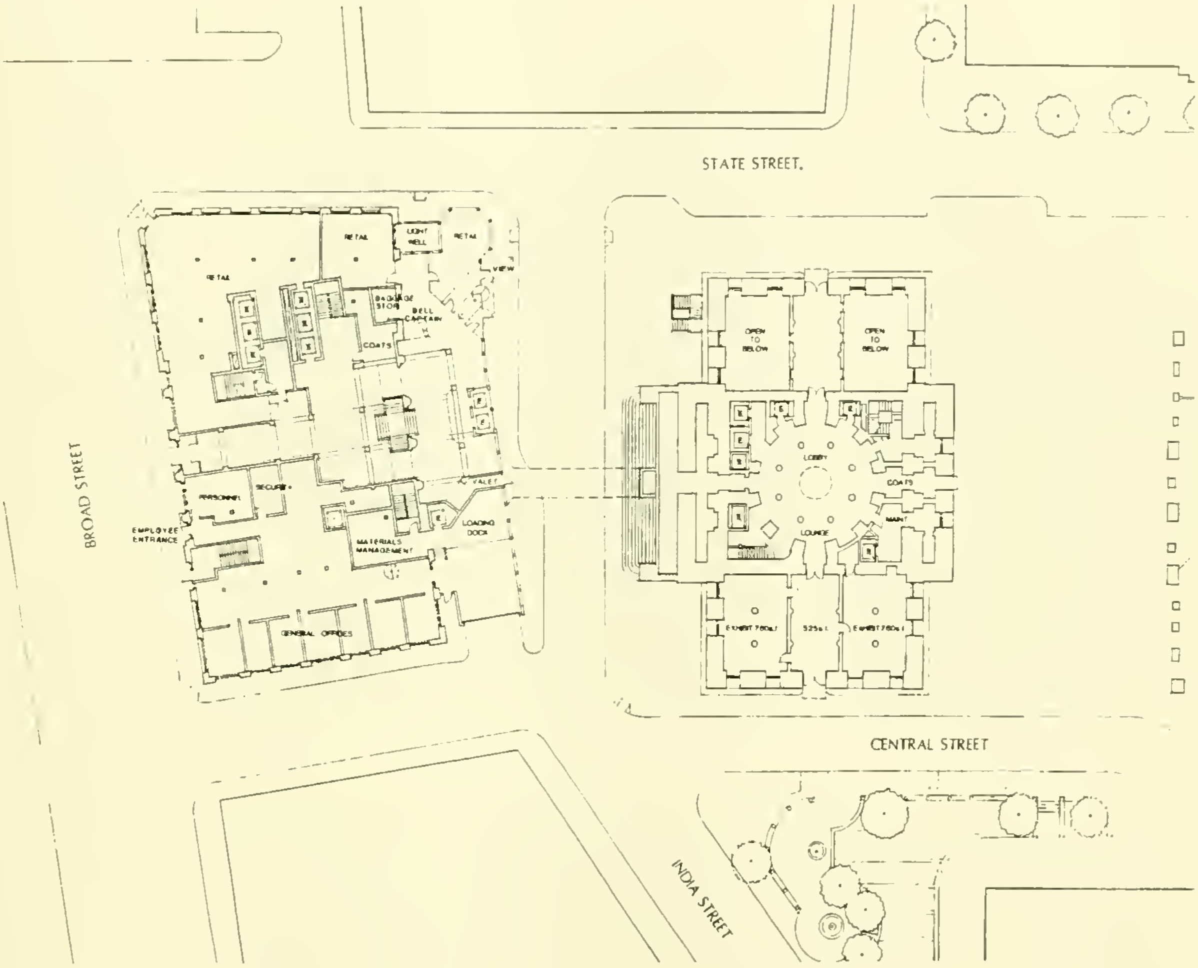


* Pedestrians in street and on sidewalk.

Vanasse Hangen Brustlin, Inc.

1994 Build
Midday Peak Hour
Pedestrian Volumes

Figure 9



Vanasse Hangen Brustlin, Inc.

Site Plan

Figure 10

Construction worker parking will not be permitted on site. Without parking on site, construction workers will tend to carpool and to use mass transit. During the peak construction periods, the estimated maximum number of construction work vehicles would be 50 to 100. These can be accommodated in the public parking facilities in the area.

Construction Staging

Due to the extensive work under India Street and the ongoing need to move men and materials from 131 State Street to the Custom House, India Street from Central Street to State Street will be used as the primary staging area for the duration of the construction project. Most of the work on the Custom House is interior renovations, so significant staging areas will not be required for long durations. However, certain work like the replacement of the lower windows and the repair of the lower roofs may require the erection of scaffolding and the exclusive construction use of a ten to fifteen foot wide work area at the base of the Custom House on all elevations. The majority of material deliveries to the Custom House would be made through the McKinley Square entrance which historically has been the primary delivery door. Since the exterior of 131 State Street has recently been extensively repaired and renovated, the majority of the construction staging will be done from the primary India Street staging area with the exception of the period during the construction of the three story addition. At the street level, repair and replacement work on the doors, windows, and limestone column covers will require the narrowing of the sidewalks on State Street, Broad Street and Central Street. In addition, the repair and replacement of sidewalks would be done in incremental phases to minimize impact on pedestrian traffic. The proponent will work with the BTD to mitigate construction impacts on vehicular and pedestrian traffic around the site.

Construction Vehicle Routings and Deliveries

The exact source locations of construction materials are not known at this time, but it is expected that all deliveries will access the area via the Central Artery. It is anticipated that Central Street and State Street will be the two primary access roads to the site. Deliveries from the north are expected to exit the Central Artery at the Dock Street/Callahan Tunnel off-ramp and then proceed directly to the site via Surface Artery and State or Central Street. From the south, deliveries will likely exit the Central Artery off-ramp at Northern Avenue, then proceed down Surface Artery to State or Central Street. Traffic leaving the site will use either Broad Street or India Street heading towards the Surface Artery. Return trips to the north will be via the Dock Square/Sumner Tunnel on-ramp to the Central Artery, while southbound trips will use the Purchase Street on-ramp.

Peak truck activity will occur during the excavation work and during the pouring of concrete. It is estimated that up to 15 trucks per hour may occur during these activities. For the balance of the construction period, 3 to 4 trips per hour would be typical. A full traffic plan will be submitted at the proper time for approval by the City.

MBTA AND CENTRAL ARTERY CONSTRUCTION IMPACTS

The proposed project is located near the Aquarium Blue Line station, which is tentatively scheduled to undergo major reconstruction beginning in June, 1993. Construction is expected to last 16 months, with a tentative completion date of October, 1994. The reconstruction involves lengthening the station platforms and opening a new west headhouse in the vicinity of McKinley Square. The construction activity will cause some disruption to State Street; however, the MBTA intends to maintain two travel lanes along State Street throughout the construction period because this section of State Street is wide and can accommodate construction activity.

In addition to the Aquarium station reconstruction, the depression of the Central Artery is another major construction project planned in the area. Construction work is tentatively scheduled to begin in October, 1994. State Street is expected to remain operational during Artery construction. Prior to the actual work on the Artery, utility reconstruction will take place beginning tentatively in February, 1992. Artery planners are developing a traffic mitigation program to be implemented during utility reconstruction.

INTRODUCTION

To minimize and reduce the potential impacts of the Custom House and 131 State Street project, a transportation mitigation plan has been developed. All of the required elements of Boston's Transportation Access Plan requirements have been addressed. The goal is to develop a thorough mitigation plan for this important project.

The many strategies described in this section reflect the fact that the proponent clearly understands that the specific commitments outlined herein will be included in a legally binding Transportation Access Plan Agreement (TAPA) between the developer and the city of Boston.

Each strategy has been classified into one of the following categories:

- Traffic reduction strategies
- Pedestrian improvements
- Public transportation
- Loading
- Traffic operation improvements
- Construction management
- General

TRAFFIC REDUCTION STRATEGIES

Reducing the amount of traffic generated by the proposed development is an important component of the mitigation plan. The proponent understands the need to mitigate project impacts in accordance with city policies and has developed travel demand reduction strategies to reduce the impacts of the project. When integrated into a comprehensive transportation management plan, travel demand management can reduce automobile usage and thereby lessen the need for physical improvements to roadways and minimize the need for parking. The following measures are designed to reduce the number of vehicle trips to the project area during peak commuting hours and on a daily basis.

Ridesharing for Employees

Ridesharing is an overall term that refers to encouraging commuters to ride in vehicles with other commuters rather than driving to work alone. The most common forms of ridesharing are carpools and vanpools. Increased ridesharing decreases the number of vehicles using the roadways and thus decreases the degree of congestion encountered. An additional benefit is reduced fuel consumption, as fewer vehicle miles will be traveled.

The project proponent is committed to the following ridesharing incentives:

- Provision of promotional materials on ridesharing to hotel and museum employees.

- Provision of carpool and vanpool matching services on-site or joint participation in programs with other nearby tenants, organizations, and companies.

- Coordination with one or more organizations which lease commuter vans and provide administrative and organizational assistance. The Commonwealth of Massachusetts, through the funding of a private, non-profit corporation (CARAVAN for Commuters, Inc.), has developed a computerized transportation ride-matching network called RideSource. RideSource matches commuters to carpools, vanpools, and public transportation options through an extensive database developed by CARAVAN. The proponent will install the program's software and develop the database with the assistance and support of CARAVAN. This computerized tool will greatly assist in the formation of carpools and vanpools by making data available to employees of the hotel and museum about the residence location and travel times of other commuters who might share a ride.

PEDESTRIAN IMPROVEMENTS

As indicated in a previous section of this report, pedestrian flow near the site is expected to be operating at acceptable levels. However, as part of the proposed development, the proponent intends to further define and enhance pedestrian linkages in the following manner:

- Provide an elevated walkway between the Custom House and 131 State Street building which will provide a safe pedestrian passageway over India Street.

- Provide upgraded lighting around the building perimeters and along India Street satisfactory to the city of Boston.

- Provide full handicapped access on-site. Elevators and ramps will be provided for barrier-free access throughout all interior and exterior spaces as required.

- Improve the general environment for pedestrians adjacent to the site and on India Street with building detail and ornamentation concentrated on street level.

PUBLIC TRANSPORTATION

Another way to reduce the number of vehicles on roadways is to encourage employees and hotel guests to use public transportation as an alternative means of traveling to work and business or sightseeing. The proposed project site is located within walking distance of the Aquarium, State, and Government Center subway stations, and the Haymarket express bus stop, the Rowes Wharf and Long Wharf commuter boats, and the Logan water shuttle.

The project's location provides an excellent opportunity to generate a high proportion of transit users. The MBTA has a three- and seven day pass program designed for visitors. These passes (which cost eight dollars and sixteen dollars, respectively) provide unlimited access to rapid transit and local bus routes. The nearest location where these passes are sold is at the Bostix ticket booth near Quincy Market. The proponent will encourage transit usage by providing the following in the hotel lobby:

- Provide information to guests regarding the MBTA's visitor pass program and the location where passes can be purchased
- Commuter bus, commuter rail, and commuter boat schedules
- Promotional and informational materials for all modes of public transportation

LOADING

A sometimes overlooked part of a project's mitigation plan is in the area of loading, including the configuration of loading docks and service vehicle parking as well as the movement patterns for these vehicles. The measures below are designed to address these issues:

- Encourage all deliveries (with the exception of courier services) to take place during off-peak hours, which include all times other than 7:00 AM to 10:00 AM and 3:00 PM to 6:00 PM on weekdays.
- Restrict vehicular deliveries to the building from any location other than the loading area during peak hours. No vehicular deliveries will be accepted through the main entrance to the building and along State Street during peak hours.

TRAFFIC OPERATIONS IMPROVEMENTS

The project's proposed uses, the site's excellent location with respect to public transportation services, and the proponent's proposed commitment to various travel demand reduction strategies all will result in relatively small traffic impacts at key locations. Nevertheless, the proponent recognizes the desirability of improving traffic operations in the area so as to maximize the efficiency of traffic flow to and from the project site.

As indicated previously, the intersection of State Street and the Surface Artery is projected to operate at Level-of-service F in the morning peak hour under No-Build and Build conditions if the existing signal timing is retained. A review of the projected traffic volumes, intersection geometry, and existing signal timing indicates that inadequate green time will be available for the northbound approach. If the signal timing is optimized at this location, the level of service under Build conditions can be improved to LOS E as shown in Table 21. It should be noted that any improvement in signal timing at this location should be coordinated with signal operations at Clinton Street and the Surface Artery and at Milk Street and the Surface Artery. In addition to improved signal timing and coordination, the proponent supports the continued enforcement of parking restrictions along State Street.

Table 21 STATE STREET/SURFACE ARTERY MITIGATED MORNING PEAK HOUR LEVEL OF SERVICE

	Build		
Signal Timing	V/C	Delay	LOS
Existing	0.97	84	F
Optimized	0.97	46	E

CONSTRUCTION MANAGEMENT

An important component of the Transportation Access Plan is an effective series of measures designed to minimize traffic flow and safety impacts during the project's construction phase. Summarized below are several measures which the developer and the construction contractor will incorporate into the construction management plan for the project:

- Construction worker parking will not be permitted on-site or adjacent to the construction area. All construction workers will be required to access the site by public transportation, ridesharing, or by parking at off-site locations.

- Worker shifts will be scheduled so as to minimize conflict with typical commuting periods.

- Police details will be placed as required within the construction area to ensure that the above measures are implemented.

- The project proponent will collaborate with the BTD regarding all transportation-related construction impacts of the project.

- Designated truck routes will be established to govern how trucks reach the site. The main point of this commitment is to have trucks use only the regional highway system and major arteries and avoid using residential

streets and historic districts. Enforcement of these restrictions will be accomplished through contractual clauses in each contractor and subcontractor agreement.

- Truck waiting areas will be designated to avoid creating impacts on adjacent areas.
- Covered pedestrian walkways and secure fencing, staging, and bracing will be provided in areas affected by each phase of construction to protect nearby pedestrian and vehicular traffic and to improve safety. Gate entrances into each construction area will be determined jointly with the BTD.
- The location of laydown and storage areas will be established to minimize area disruption and confusion. The movement of materials across the site will be carefully planned to avoid disrupting abutters. The proponent will direct the construction manager to investigate the possibility of constructing staging at a location remote from the project site.
- Construction of the proposed project will be coordinated with the planned Aquarium station and Central Artery utilities construction projects to minimize the impacts on State Street traffic flow as much as possible.

GENERAL

To further minimize project transportation impacts, the proponent will implement the following measures:

- Provide a secure bicycle storage area for use by employees who wish to commute via bicycle
- Provide staff support to coordinate all of the above transportation mitigation efforts and a representative who would be responsible for the dissemination of such material and coordination of activities described above
- Disseminate information regularly to employees concerning all of the above through newsletters, brochures, or by special topic memoranda. Information will also be made available to hotel guests as necessary and appropriate.

MONITORING PROGRAM

In the Project Travel Demand section, estimates were made for vehicle trip generation which were the result of several combined factors. The most significant factors affecting the number of vehicle trips are:

- Percent transit use (share of project generated person-trips using public transportation)
- Vehicle occupancy rate (average number of people in each vehicle coming to or leaving the project)

- Peak hour percentage (portion of total project trips made during the peak commuting hour)

To minimize vehicular travel, it would be desirable to increase the number of person trips by public transportation, to increase the vehicle occupancy rate of those vehicles traveling to the project, and to decrease the percentage of trips occurring during the peak hours. These factors typically serve as a basis for establishing a set of access goals for the project.

As outlined in the Future Conditions sections, the proposed hotel development is expected to have limited impact on commuter peak hour traffic. This is the result of three major factors. First, most of the hotel's trips are non-work related and take place in non-peak hours. Second, because of their varied work hours, many hotel employees travel in non-peak hours. Finally, the proposed development will eliminate existing office space, thereby reducing peak hour demands associated with the existing offices. As a result of these factors, the opportunities to reduce peak hour vehicle travel are very limited and it is difficult to establish measurable access goals for the project.

Nevertheless, the proponent will monitor progress on implementing the proposed mitigation measures outlined above. As a follow-up to the commitments set forth in this section, the proponent will provide annual management reports to the city describing actions taken and the status of individual measures set out above. The proponent also commits to working with the city to address any other transportation-related issues affected by the project and to prepare a mutually acceptable Transportation Access Plan Agreement which incorporates traffic mitigation measures as proposed above.

C. ENVIRONMENTAL PROTECTION COMPONENT

C. ENVIRONMENTAL PROTECTION COMPONENT

1. Wind

The proposed Project and its additions should not have a material wind impact on the pedestrian areas. The Custom House will not have any added mass, therefore, there will be no change in current conditions. The three story addition to 131 State Street should have no negative wind impact. The 30 foot addition will rest upon the existing 125 foot base, and the solid rectangular design will not contribute to adverse winds conditions.

2. Shadow

The proposed Project and its addition will not have a material impact on shadows in the surrounding pedestrian areas. The Custom House will not have added massing, with the exception of the connector. The three story addition on 131 State Street will have no negative impact on any public areas. The shadows created by the new addition will only impact a small neighboring parking lot and two buildings on State Street.

3. Construction Impact

(a) Potential Dust and Pollutant Emission

All contractors will be required to comply with ordinances and regulations of the City of Boston, the Commonwealth of Massachusetts, and the

federal government regarding dust and pollutant emissions. The predominant potential sources of dust and pollutant emission would occur during interior demolition and the excavation of India Street. Demolition dust can be minimized by using enclosed trash chutes, covered trucks and water misting if it should become necessary. Excavation dust will be proportionately small on this project since the majority of the work is interior renovation. However, the excavation dust can be minimized by wetting the excavated materials and by using covered trucks. The surrounding streets and sidewalks can be swept and hosed on an ongoing basis during the excavation period.

(b) Potential Noise Impact

The contractor will be required to comply with regulations established by the City of Boston, Commonwealth of Massachusetts and the federal government to minimize potential noise impact. The project is not proximate to any residential spaces and this will alleviate a common concern. The potential noise would impact the users of the office and retail spaces in the area. The construction activities that would generate higher than typical urban noise levels would be the excavation of India Street, the installation of sheet piles and concrete piles, and the periodic delivery of major supplies to the site. Given the non-residential nature of the area, the careful scheduling of the excavation and piling activities to off-peak office hours, such as early morning and weekends, would minimize the

impact. Also, since the majority of the excavation is only one level deep, the duration of this phase of operations will be minimized. Major deliveries of materials and supplies can also be scheduled for off-peak office hours, which would minimize traffic impact, as well as noise.

(c) Construction Staging and Construction Worker Parking

Due to the extensive work under India Street and the ongoing need to move men and materials from 131 State Street to the Custom House, India Street, from Central Street to State Street, will be used as the primary staging area for the duration of the construction project. Most of the work on the Custom House is interior renovation, so significant staging areas will not be required for long durations. However, certain work such as the replacement of the lower windows and the repair of the lower roofs, may require the erection of scaffolding and the exclusive construction use of a ten to fifteen foot wide work area at the base of the Custom House on all elevations. The majority of material deliveries to the Custom House would be made through the McKinley Square entrance which, historically, has been the primary delivery door. Since the exterior of 131 State Street has recently been extensively renovated, the majority of the construction staging will be done from the primary India Street staging area with the exception of the construction of the three story

addition. At the street level, repair and replacement work on the doors, windows, and limestone column covers will require the narrowing of the sidewalks on State Street, Broad Street and Central Street. In addition, the repair and replacement of sidewalks would be done in incremental phases to minimize impact on pedestrian traffic.

Construction worker parking will not be permitted on site. Without parking on site, construction workers will tend to carpool and to use Mass transit. During the peak construction periods, the estimated maximum number of construction work vehicles would be 70. There are approximately 5,000 public parking spaces in the area, which should be more than sufficient.

(d) Preliminary Construction Schedule

	Start	Finish
India Street Underground Service Connection	11/91	6/92
Renovate Custom House	1/92	12/93
Renovate Board of Trade Building	1/92	12/93
Build Connector Building and Bridge	10/92	12/93

The primary construction work hours will be from 7:00 a.m. to 3:30 p.m., Monday through Friday. However, once a more precise schedule is developed, certain limited work activities will need to be scheduled outside of these hours.

(e) Construction Truck Traffic and Routes

A full traffic plan will be submitted at the proper time for approval by the City of Boston. It is anticipated that Central Street and State Street will be the two primary access roads to the site. Traffic leaving the site will use either Broad Street or India Street heading towards the Expressway. Peak truck activity will occur during the excavation work and during the pouring of concrete. It is estimated that up to 15 trucks per hour may be in transit during these activities. For the balance of the construction period, 3 to 4 trucks per hour would be typical.

(f) Foundation Construction

The foundation for the Connector building will be constructed by first driving sheet piles to support and isolate the adjacent materials. India Street will be an open cut excavation using machine hoes to load material directly into trucks for offsite disposal. Unless boring tests indicate otherwise, it is anticipated that short concrete piles should be sufficient to support the new structure. Cast-in-place concrete slabs and walls will complete the foundation system.

Because the excavation is shallow, the sheet piles will be sufficient to protect nearby buildings and utility lines excluding those which we are planning on relocating. Localized shoring of special conditions which may occur has been anticipated and a certain allowance has been set aside for this purpose.

Again, because of the shallowness and plan location of the excavation, there should be no impact on the MBTA Blue Line tunnel.

Most of the excavation will be above the groundwater level. Deeper excavation for the sub-basement alongside the Board of Trade building on India Street should not affect groundwater levels. North and south of the excavation, the aforementioned sheet piles will maintain groundwater levels on State and Central Streets. The west side of the excavation abuts the 6′ to 8′ thick concrete mat below the Board of Trade building basement level. Between the east side of the excavation and the Custom House will be approximately 75 feet of existing earth fill, which, given the relatively short time period for the sub-basement excavation, should be sufficient to prevent altering groundwater level.

(g) Asbestos Waste

An asbestos abatement program will be established and executed by separate contract. All asbestos work will comply with all applicable regulations.

(h) Public Safety Measures

A construction fence will surround the work site. Covered pedestrian bridges will be utilized when necessitated by overhead construction activity. During high levels of trucking, police details will be provided to minimize traffic disruption and protect public safety.

4. Rodent Control

The City of Boston has determined that the infestation of rodents in the City is a serious problem with which to contend. In order to control this infestation, the City has established requirements under the Massachusetts State Sanitary Code, Chapter II, 105 CMR 410.550 and the State Building Code, Section 108.6. Policy Number 87-4 established that extermination of rodents shall be required for issuance of permits for demolition, excavation, foundation, and basement rehabilitation. The Project proponent will have contracted with a licensed exterminator prior to beginning any work on the Project. A rodent extermination certificate will be filed with the building permit application to the City. Inspection for the presence of rodents, monitoring, and treatment will be carried out before, during, and at the completion of all foundation work for the proposed Project, in compliance with the City's requirements. Rodent extermination prior to work start-up will consist of treatment of the entire Project area, including all alleyways, surrounding building exteriors, and building interiors. This treatment will consist of two service visits. During the construction process, bi-monthly service visits will be made to maintain effective rodent control levels.

D. URBAN DESIGN COMPONENT

D. URBAN DESIGN COMPONENT

1. Schematic Plans

The Project will restore and preserve two historic buildings within the Custom House Historic District. The Custom House will be restored within the guidelines established by the Boston Landmarks Commission.

The area around the two buildings will be developed to improve the pedestrian access and environment. McKinley Square and India Street between the two buildings will benefit from the project in that they will be redeveloped to conform with the neighboring parks at the Jenney Building and The Grain Exchange Building, as well as Faneuil Hall/Quincy Hall Marketplace

(a) The entire Rotunda area, plus the basement, will be open to the public. The space will be used for restaurants, lounges, meeting rooms and museum space. For a description of the program elements, please refer to Exhibit V.

(b) Please refer to Plan A-1 for a plan showing the relationship of the Project to the surrounding areas and the vehicular traffic circulation.

(c) Please refer to Plan A-18 for an eye level perspective from the north side of State Street at the Congress Street intersection.

(d) Please refer to Plans A-2 and A-3 for drawings and sections of the below grade construction. Refer to Plan A17 for the building section.

(e) Please refer to Plan A-15 for the site elevations.

(f) Preliminary public improvements have not been finalized. With the assistance of the BRA, MHC and BLC, the Developer anticipates a resolution to the ground plan that meets the objectives and criteria of these groups. The funding for this work will be supplied by public improvements capital from the Office of Capital Planning. It is expected that the MBTA will contribute funds for a portion of the improvements due to the Blue Line extension at McKinley Square. The balance will be provided by the Project.

(g) Please refer to Plans A-2 to A-12 for preliminary drawings of the Custom House.

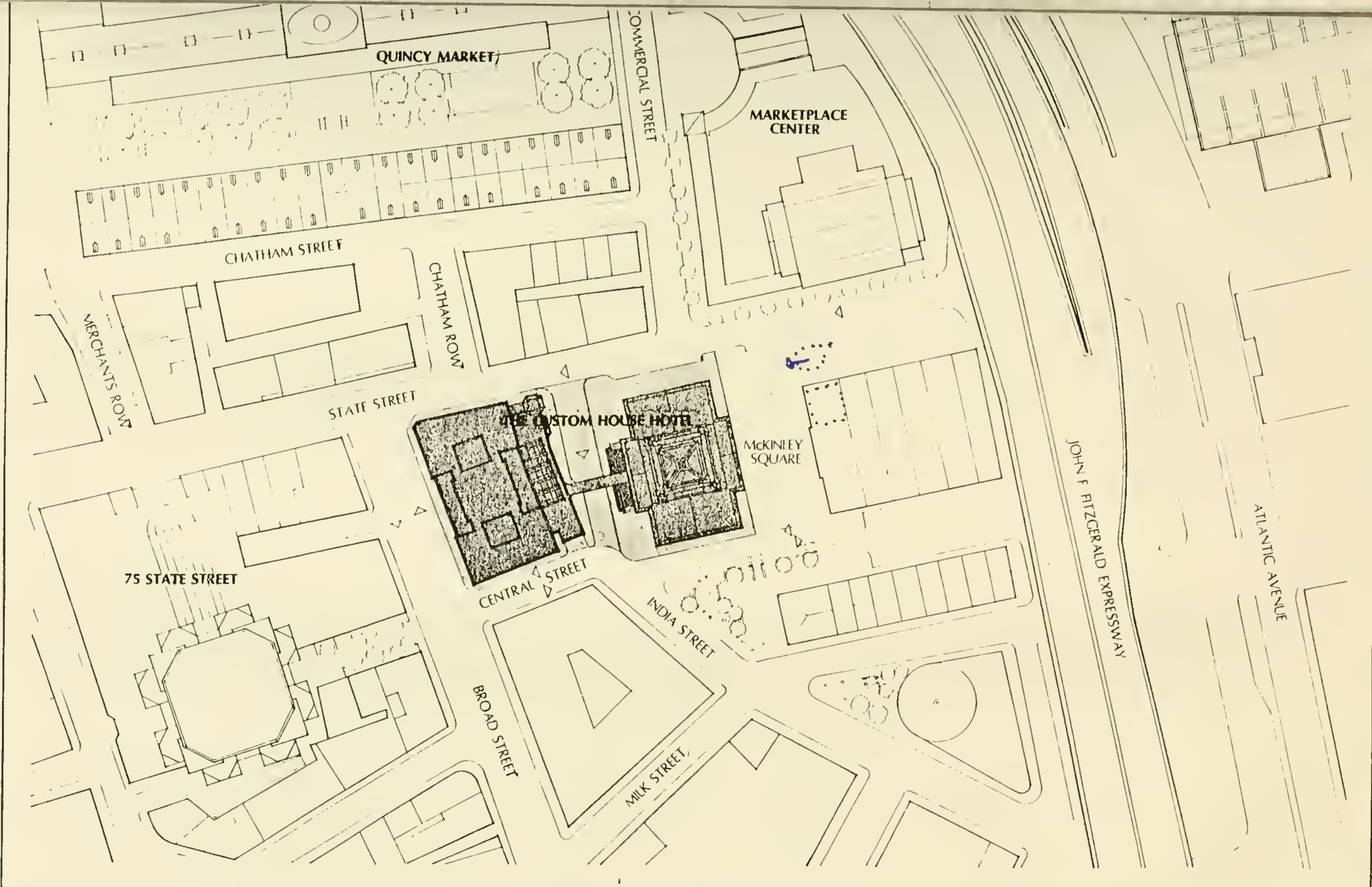
(h) Please refer to Plans A-3 to A-6, A-13 and A-14 for preliminary drawings of 131 State Street.

(i) Please refer to Plans A-4 to A-6 for preliminary plans of the connector building.

(j) The study model is complete and available for viewing.

(k) Please refer to Exhibit VI for a graphic presentation of the options for the Connector.

(l) Please refer to Exhibit VII for photographs of the existing exterior conditions.



90028

1 MAY 1991

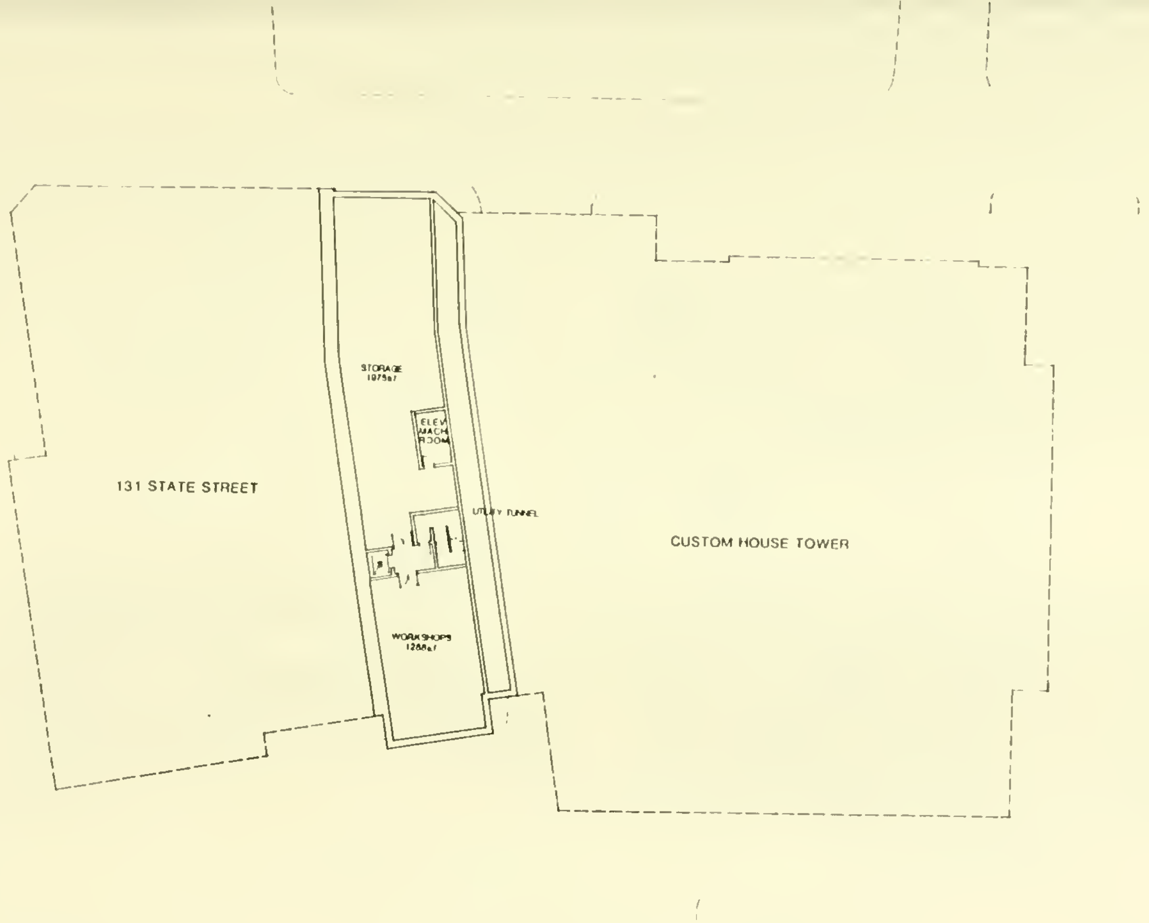
THE
CUSTOM
HOUSE
HOTEL

DISTRICT
PLAN

1/40" 1'-0"

A-1

SCHEMATIC



90028

1 MAY 1991

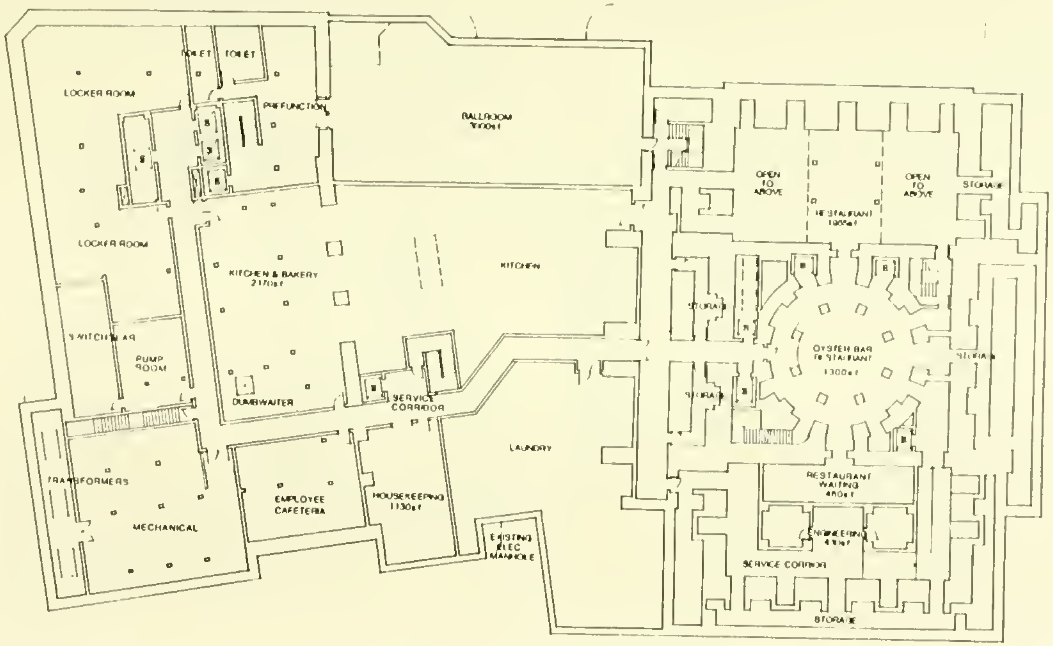
THE
CUSTOM
HOUSE
HOTEL

SUB-
BASEMENT
FLOOR PLAN

1/16" 1'-0"

A-2

SCHEMATIC



90026

1 MAY 1991

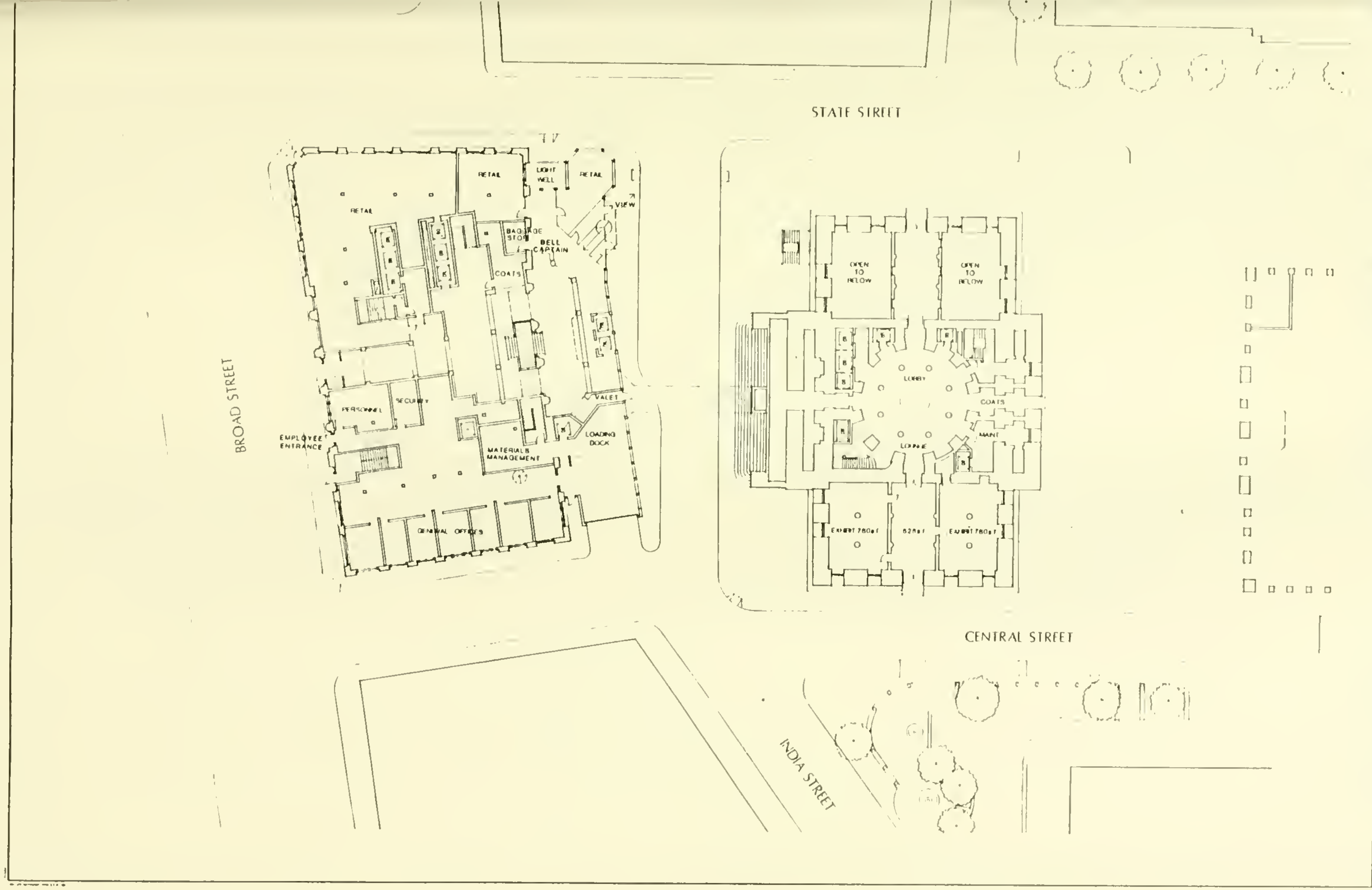
THE
CUSTOM
HOUSE
HOTEL

BASEMENT
FLOOR PLAN

1/16" 1'-0"

A-3

SCHEMATIC



90028

1 MAY 1991

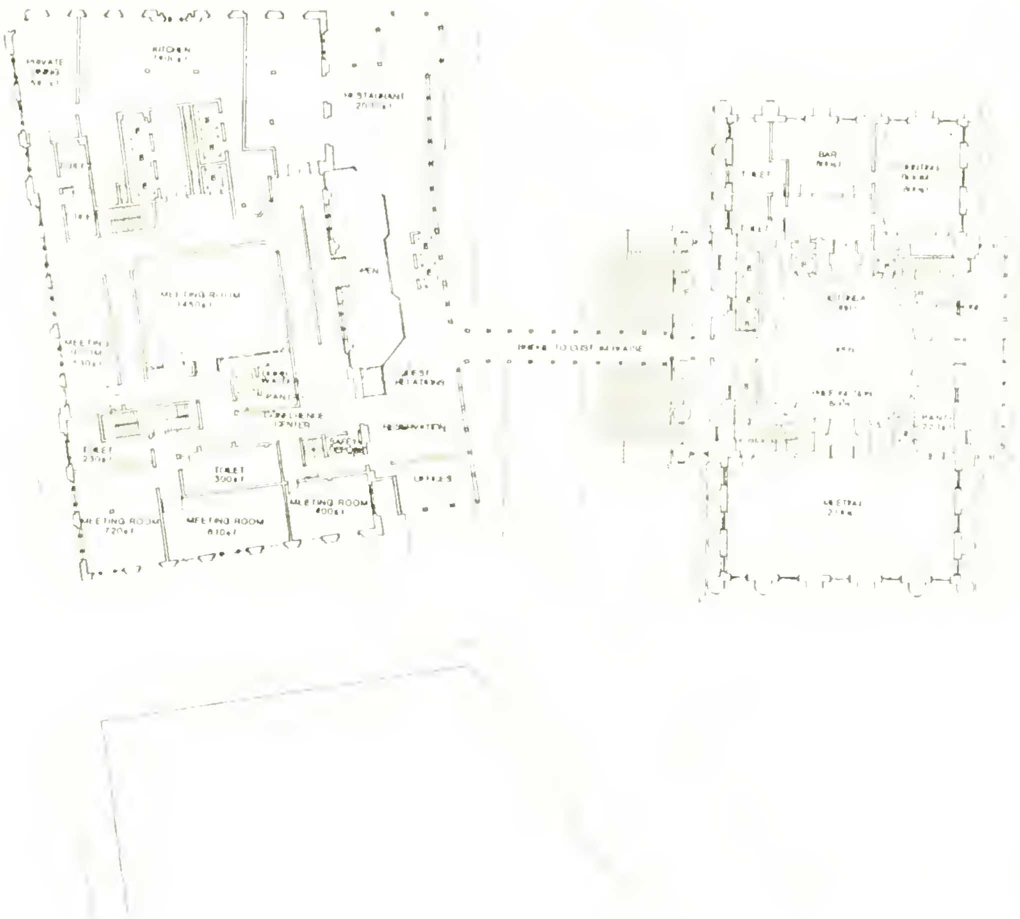
THE
CUSTOM
HOUSE
HOTEL

STREET
LEVEL
FLOOR PLAN

1/16" 1'-0"

A-4

SCHEMATIC

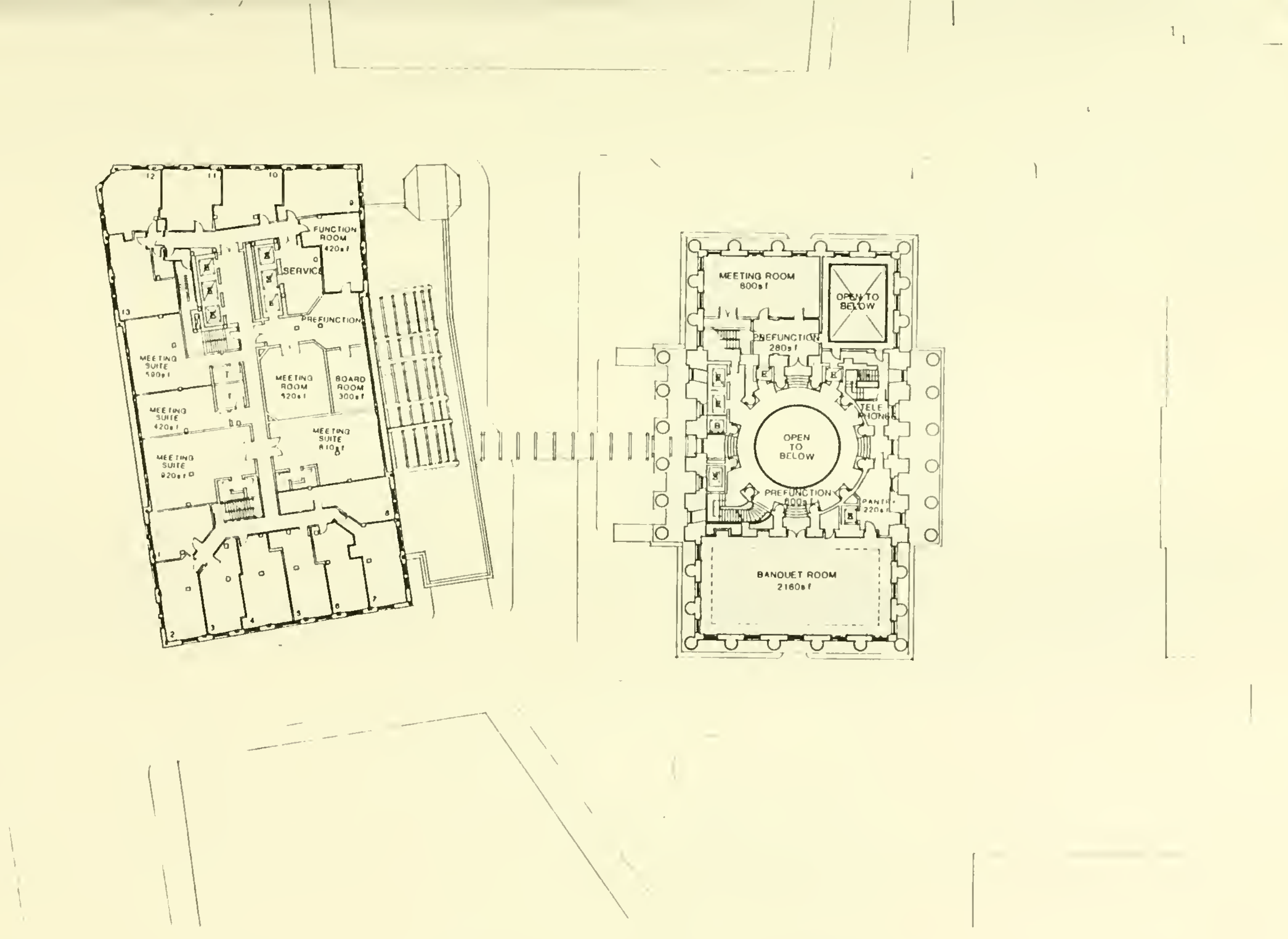


MAY 1991

THE
CUSTOM
HOUSE
HOTEL

SECOND
LEVEL
FLOOR
PLAN

A-5



90026

1 MAY 1991

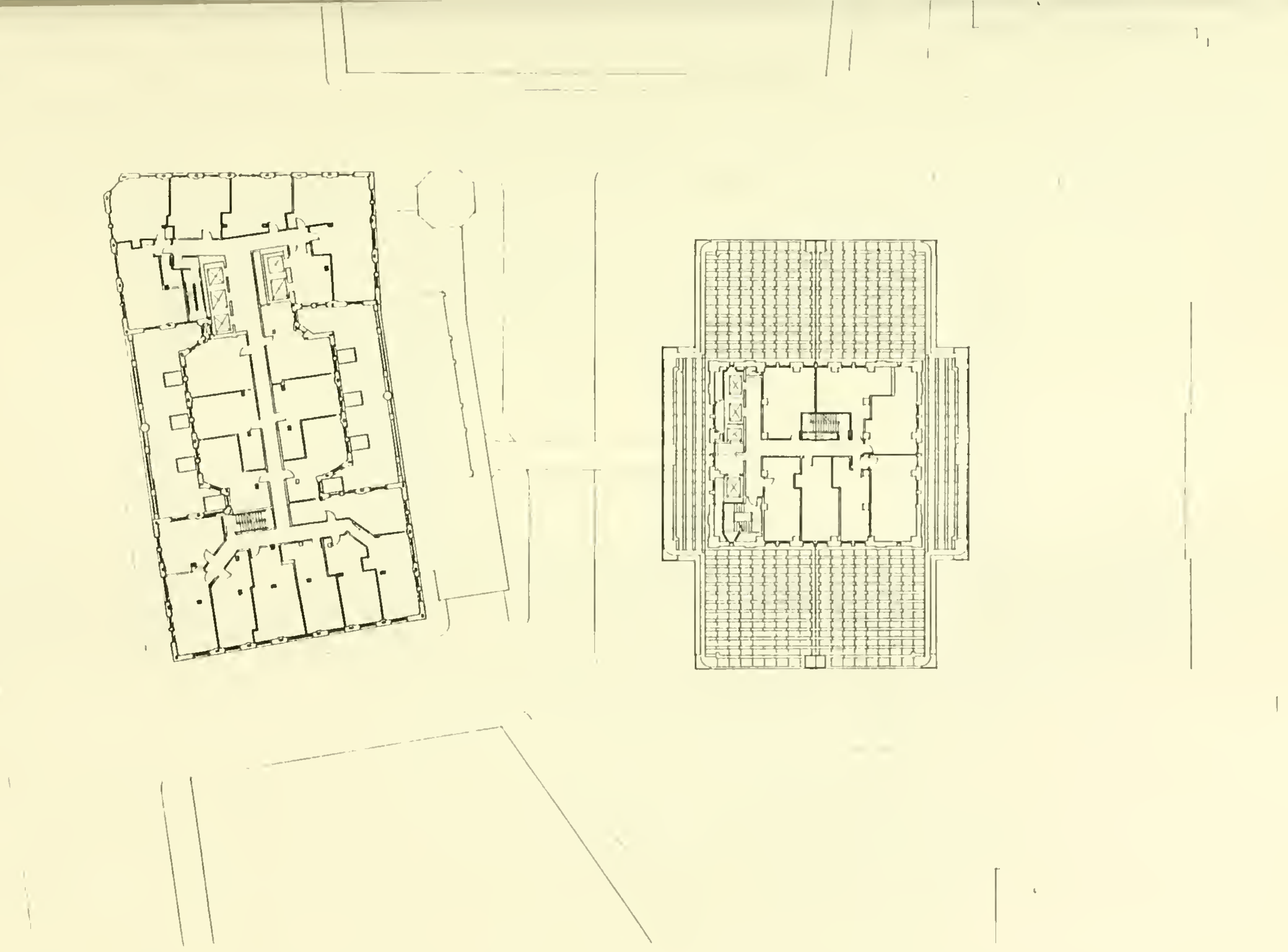
THE
CUSTOM
HOUSE
HOTEL

THIRD
FLOOR PLAN

1/16" 1'-0"

A-6

SCHEMATIC



90028

1 MAY 1991

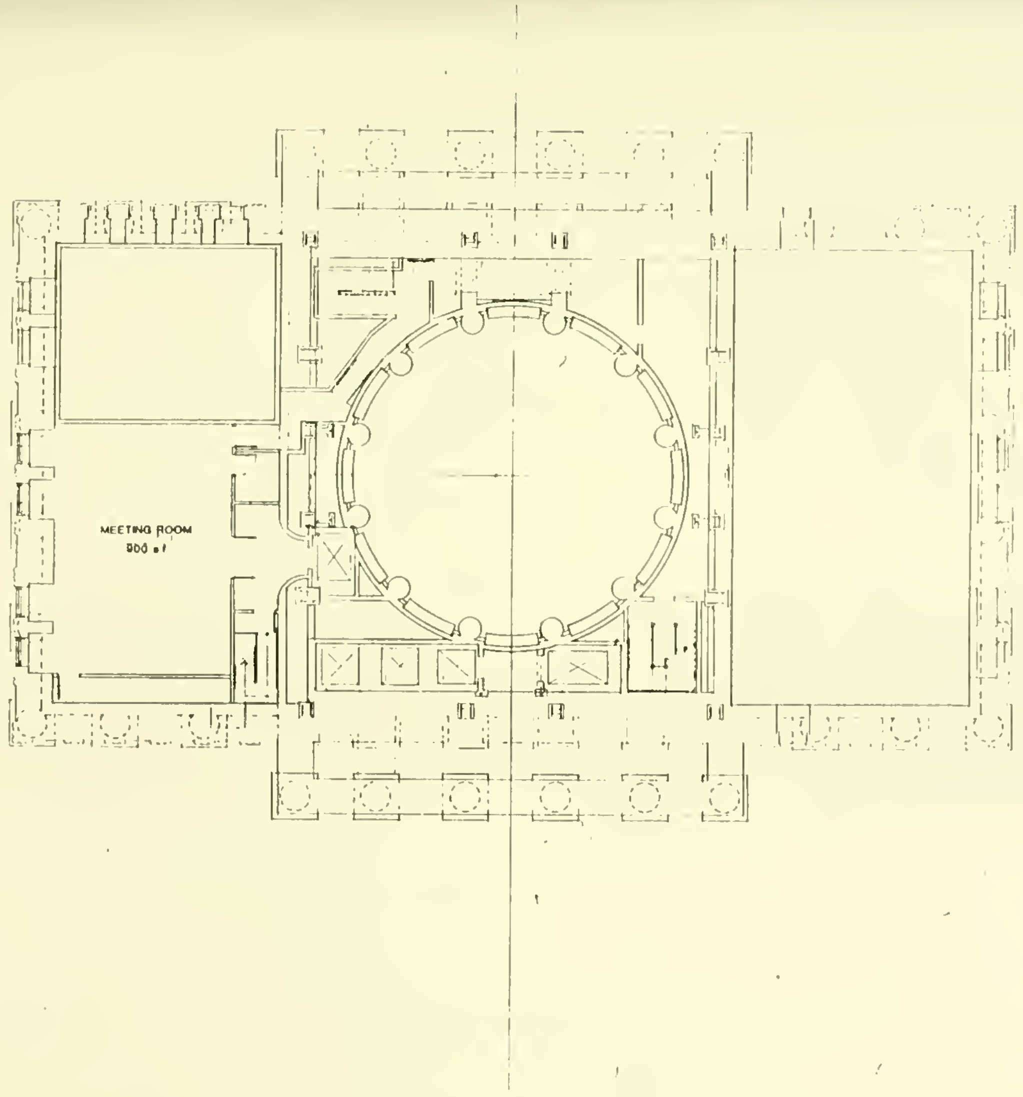
THE
CUSTOM
HOUSE
HOTEL

TYPICAL
FLOOR PLAN

1/16" 1'-0"

A-7

SCHEMATIC



90028

1 MAY 1991

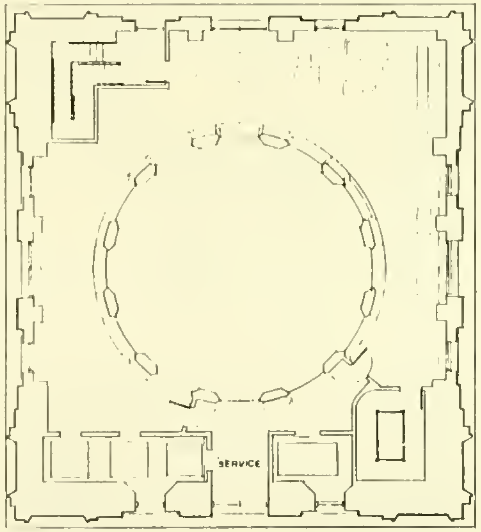
THE
CUSTOM
HOUSE
HOTEL

ATTIC FLOOR
PLAN

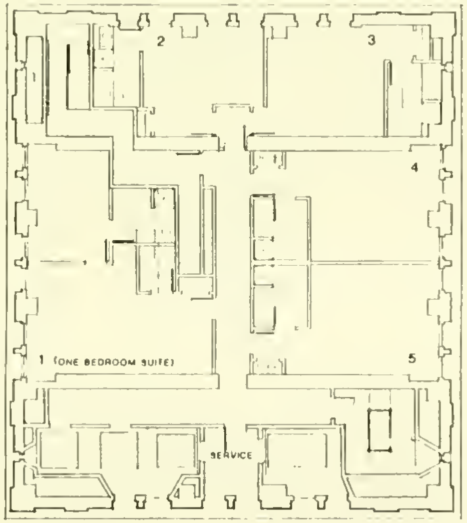
1/8" = 1'-0"

A-8

SCHEMATIC



CONCIERGE LOUNGE PLAN



4th FLOOR PLAN

90026

1 MAY 1991

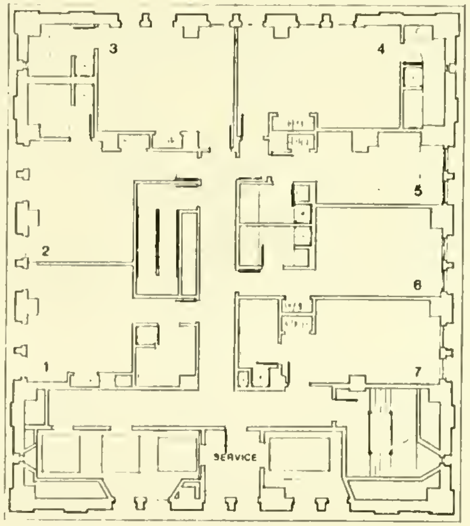
THE
CUSTOM
HOUSE
HOTEL

TOWER
FLOOR PLANS

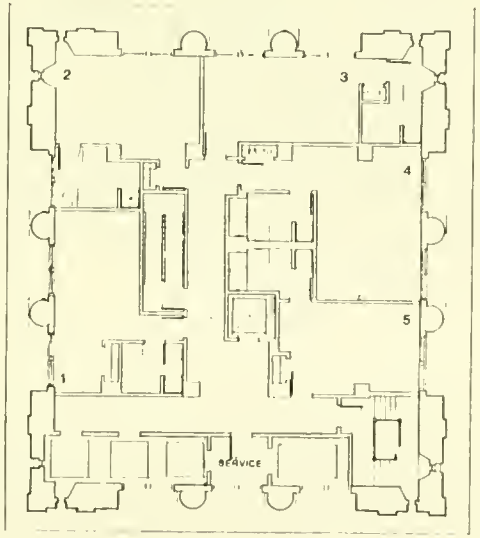
1/8" 1'-0"

A-9

SCHEMATIC



TYPICAL FLOOR PLAN (5-15)



18th FLOOR PLAN (16th & 17th SIM)

90026

1 MAY 1991

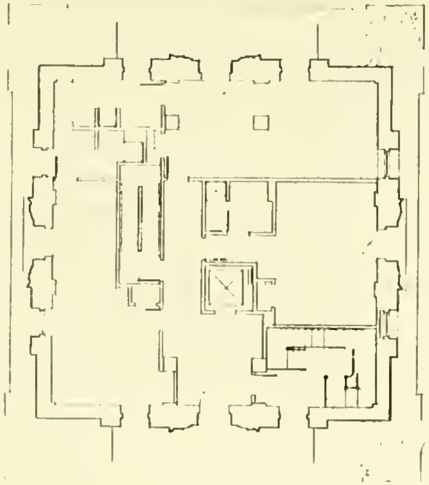
THE
CUSTOM
HOUSE
HOTEL

TOWER
FLOOR PLANS

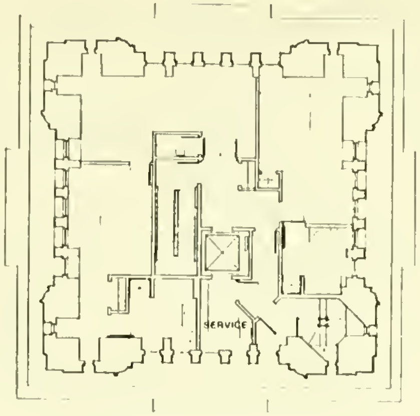
1/8" 1'-0"

A-10

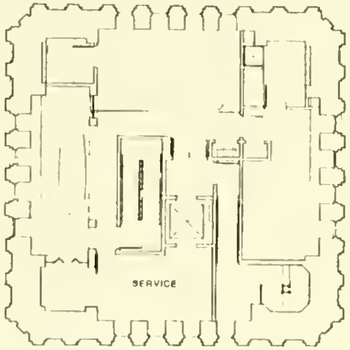
SCHEMATIC



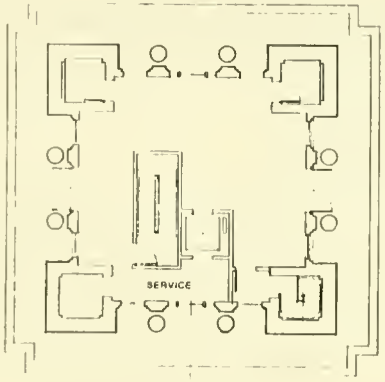
20th FLOOR PLAN (3 ROOMS)



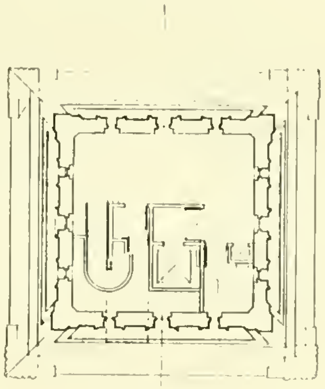
22nd FLOOR PLAN (2 BR SUITE)



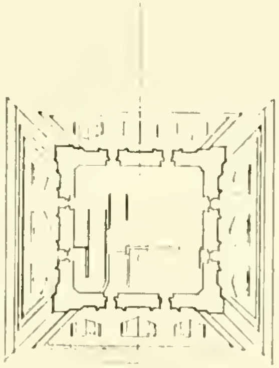
24th FLOOR PLAN (1 BR SUITE)



25th FLOOR PLAN
OBSERVATION DECK

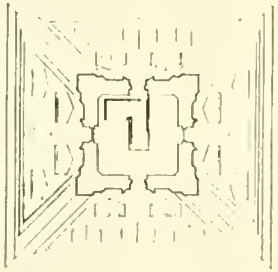


27th FLOOR PLAN
LIVING ROOM



28th FLOOR PLAN
BEDROOM

ONE BEDROOM SUITE



29th FLOOR PLAN
OBSERVATORY

90026

1 MAY 1991

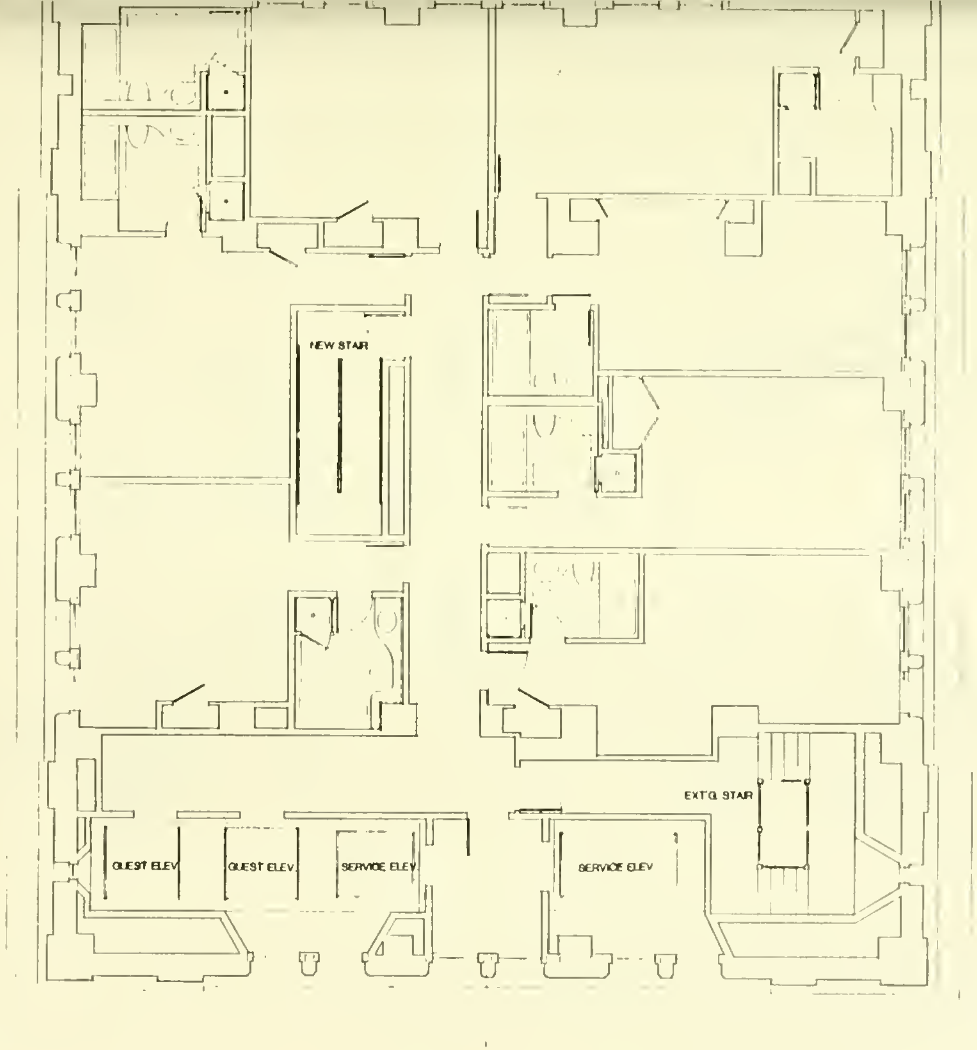
THE
CUSTOM
HOUSE
HOTEL

TOWER
FLOOR PLANS

1/8" 1'-0"

A-11

SCHEMATIC



90026

1 MAY 1991

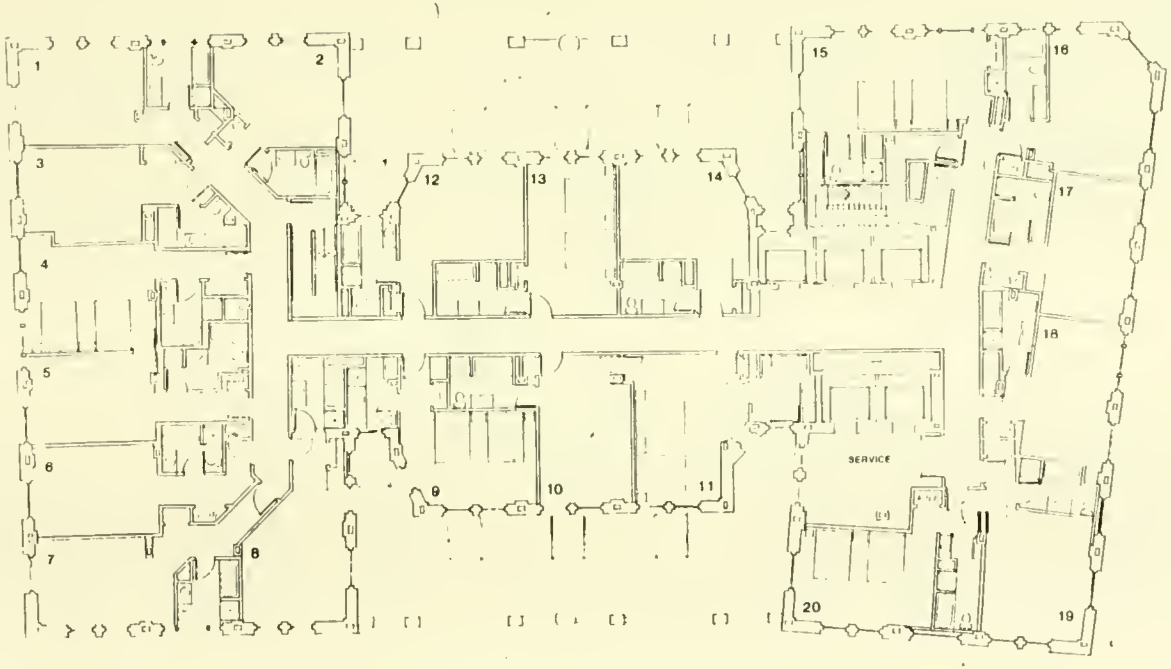
THE
CUSTOM
HOUSE
HOTEL

TYPICAL
FLOOR PLAN
(FLOORS 5-15)

1/4" 1'-0"

A-12

SCHEMATIC



00028

1 MAY 1991

THE
CUSTOM
HOUSE
HOTEL

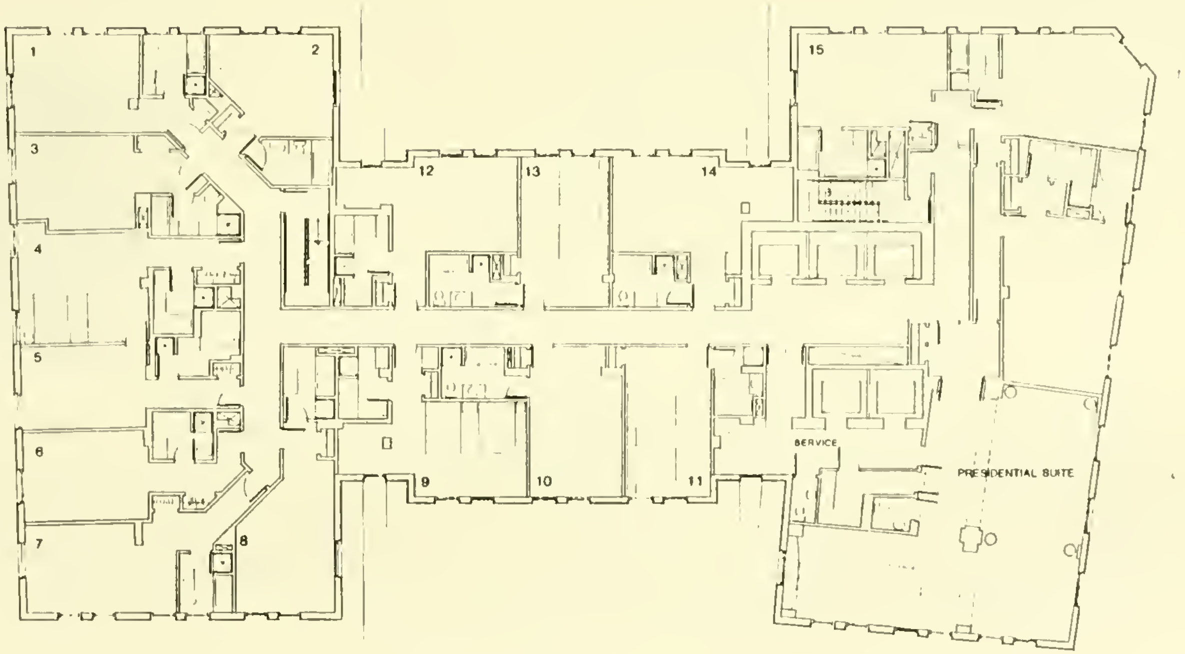
TYPICAL
FLOOR PLAN
(4-13)

131 STATE STREET

1/8" 1'-0"

A-13

SCHEMATIC



90026

1 MAY 1991

THE
CUSTOM
HOUSE
HOTEL

14th FLOOR
PLAN

131 STATE STREE

1/8" 1'-0"

A-14

SCHEMATIC

JUNG/BRANNEN ASSOCIATES INC

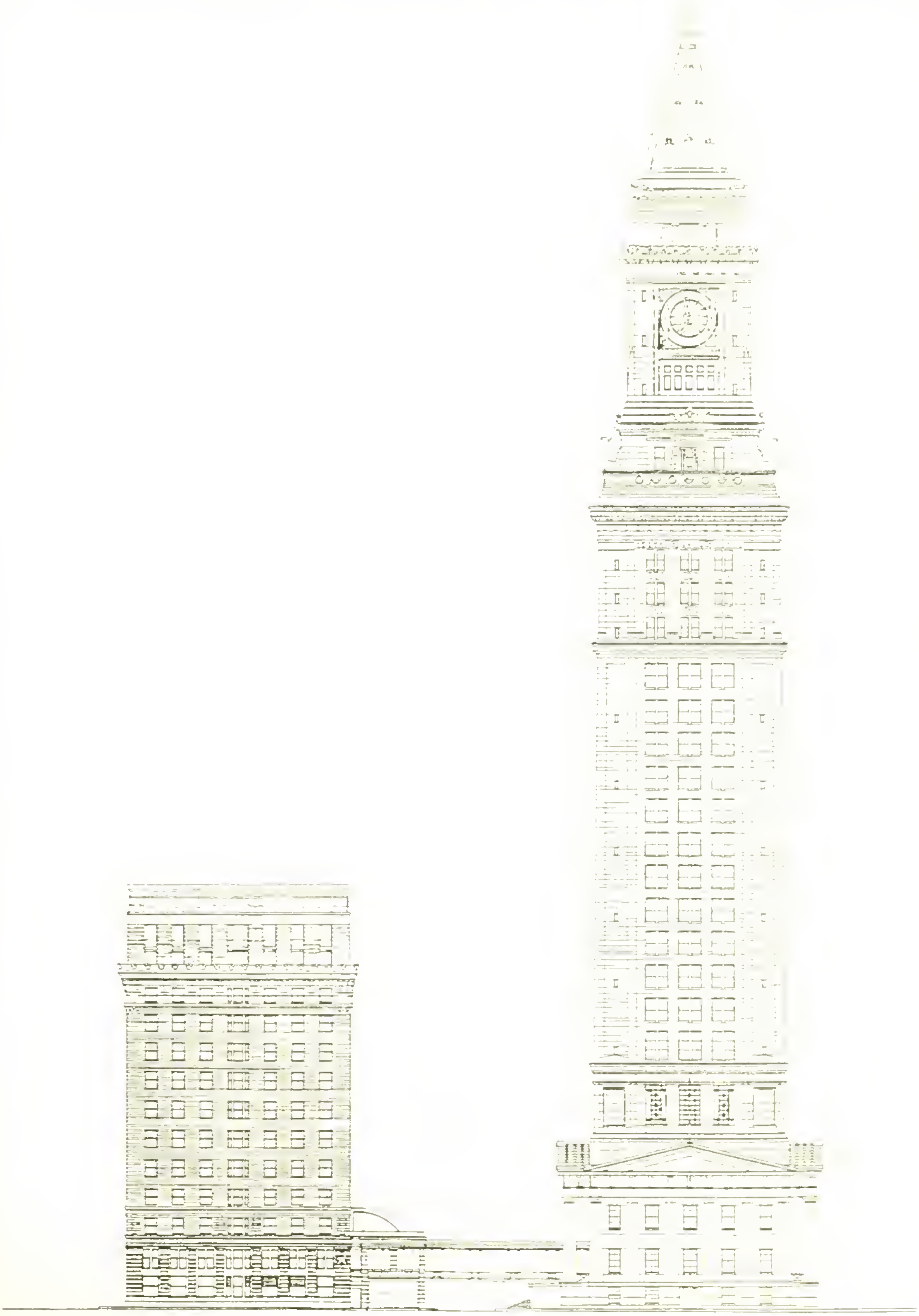
91 26

1 MAY 1991

THE
CUSTOM
HOUSE
HOTEL

CENTRAL
STREET
ELEVATION

A-15



JUNG/BRANNEN
ASSOCIATES, INC

90026

1 MAY 1991

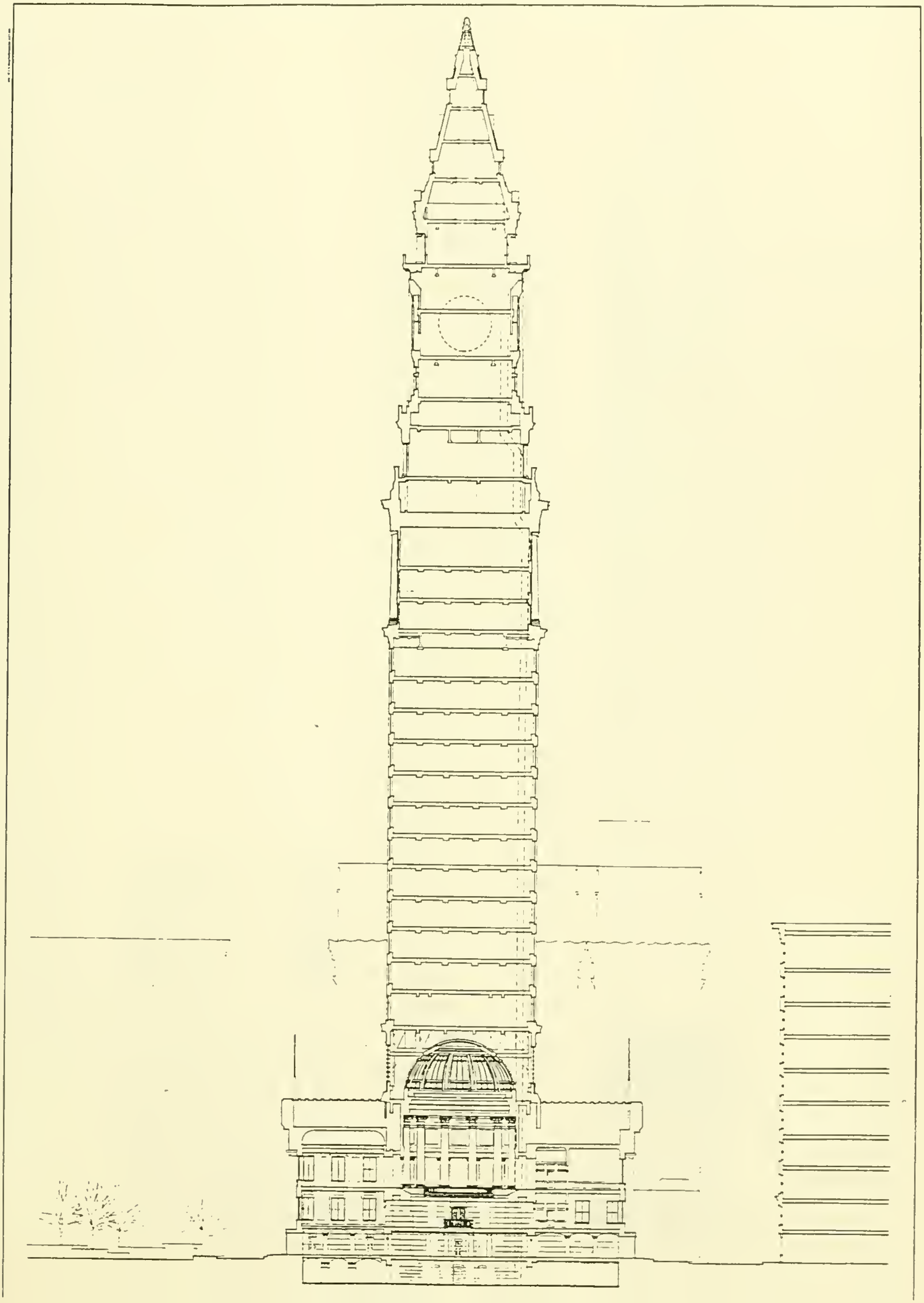
THE
CUSTOM
HOUSE
HOTEL

SECTION
THRU THE
CUSTOM
HOUSE
TOWER

1/16" 1'-0"

A-16

SCHEMATIC



JUNG/BRANNEN ASSOCIATES INC

90028

1 MAY 1991

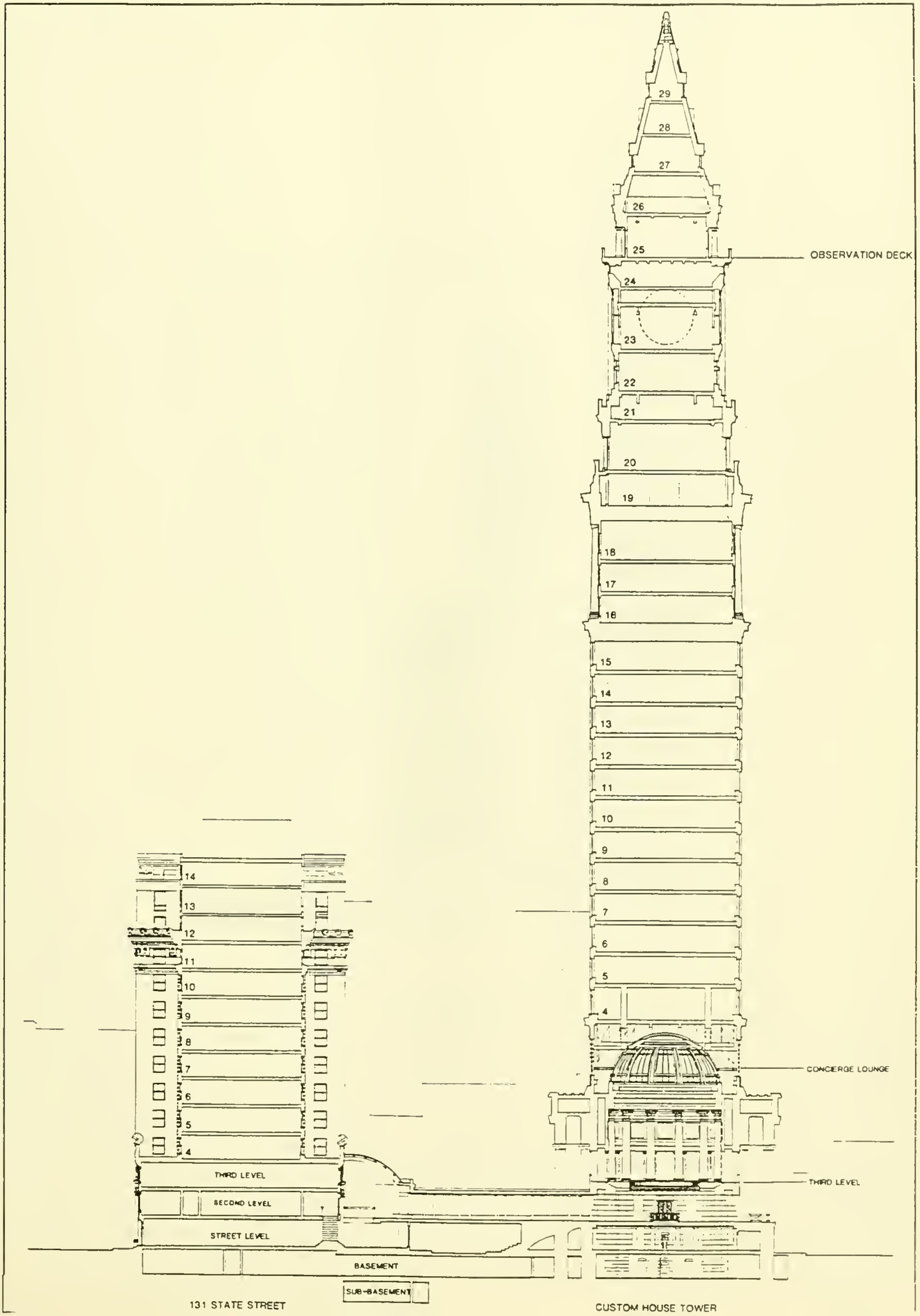
THE CUSTOM HOUSE HOTEL

BUILDING SECTION

1/16" 1'-0"

A-17

SCHEMATIC



JUNG/BRANNEN
ASSOCIATES INC

90026

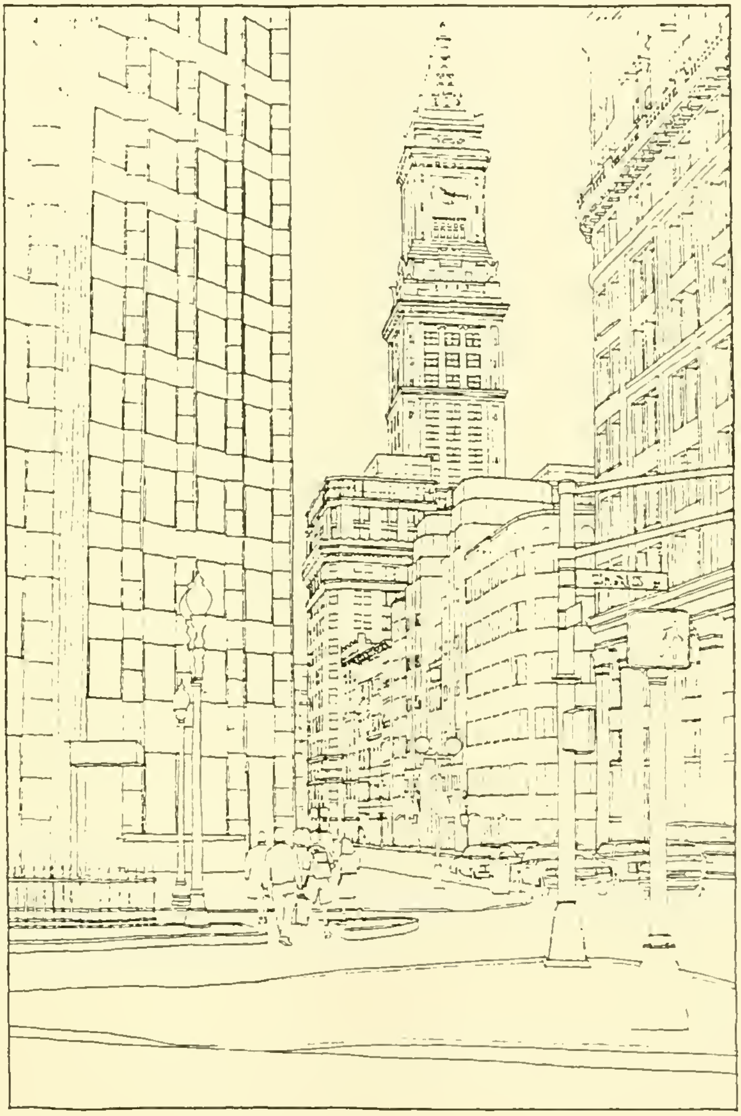
1 MAY 1991

THE
CUSTOM
HOUSE
HOTEL

PERSPECTIVE

A-18

SCHEMATIC



E. HISTORIC RESOURCES COMPONENT

E. HISTORIC RESOURCES COMPONENT

1. Volume II Update

The Historic Structures Report consists of three Volumes pertaining to the landmarked Custom House Tower. Volume I, which has been previously submitted, is a detailed written and photographic history of the Custom House. Volume II is a study of existing conditions and has also been submitted. An update to Volume II follows this description. Volume III, to be completed and submitted, will describe what affect, if any, the proposed redevelopment will have on the building's historic fabric.

The City's archaeologist, Steven Pendrey, has been notified of the Project and supplied with the appropriate plans.

The Custom House and Tower
Boston, Massachusetts

Existing Conditions Survey

Prepared by:

Andrea M. Gilmore

Society for the Preservation
of New England Antiquities

Conservation Center

May 1991

Introduction:

The Custom House (1837-1847) and Tower (1911-1915) are a designated Boston landmark. Located at the corner of State and Broad Streets, the Custom House and Tower are a monumental commemorative to Boston's maritime history as well as a harbinger of Boston's 20th century architectural transformation with skyscraper construction. In 1986, Volume I of a Historic Structure Report was prepared for the Custom House and Tower by Margaret Henderson Floyd. This report assembled the written and photographic documentation for the building and described major 19th and 20th century architectural alterations. Volume II of the Historic Structure Report, prepared by the SPNEA Conservation Center, analyzed the condition of the historic building fabric. Volume II was completed in 1988. This existing conditions survey documents deterioration to the Custom House and Tower that has occurred since 1988. It evaluates the condition of the building materials; it does not assess structural deterioration.

From 1988-1991, the building has been unoccupied and minimally maintained. It was declared surplus property by the GSA in 1986 and purchased by the Boston Redevelopment Authority in December of that year.

EXTERIOR

Introduction

As described in the 1988 report, the most serious and active deteriorative condition on the exterior of the Custom House and Tower is water penetration. Minor corrective measures have been undertaken, however, the building continues to take in measurable amounts of water due to deteriorated building materials - flashing, pointing mortars and granite block - and deficiencies in building design.

Masonry and Mortar

The predominant exterior building materials are granite and mortar. Not only are they used to construct the walls and trim of the building; they are used as the roofing material as well. The roof of the 1847 Young portion of the building is one of the major sources of water penetration. It was originally constructed with overlapping granite blocks. The original roof was removed in 1911-15 during construction of the tower and substantially reinforced with steel. The granite was then reinstalled, probably reusing the original block.

The Historic Structure Report (p. 28) states that the original stone roof remains on the north wing and that the south wing roof was removed and replaced in 1911-15. Evidence in the building - large steel beams encased in concrete - however, indicate that both roofs were removed at this time. On the interior of the building the metal lath used for the plaster ceilings in the Director's Office and the Auditor's Office further confirms that both the north and south roofs were removed and replaced in 1911-15. The design of the flashing and gutter systems for these roofs, therefore, dates to the early 20th century remodelling of the Custom House.

Examination of the granite roof and comparison of areas of water penetration on the interior of the building reveals that the primary source of water penetration is the gutters. The granite roofing blocks do not appear to be a significant contributor to moisture penetration, although their joints have been covered with black tar and white caulking (Figure 1). This unsightly covering has destroyed the original appearance of this remarkable roof and may not have been necessary. In contrast to the granite roof, the gutters and flashing are major sources of water entry. The gutters have been replaced recently. Their design probably copies the 1911 design fairly closely and is flawed. These large gutters have only one outlet, a single 3" diameter opening, which is entirely inadequate to carry the volume of water collected by the gutters (Figure 2). The water backs up in the gutter under the edge of the granite roof blocks and pours into the walls of the building. The small gutter outlets are very susceptible to blockage from the debris generated by the falcons. The openings through which the leaders from the gutters enter the building - roughly cut holes in the stone walls - are also natural traps for any water leaking through or overflowing the gutters. Concrete patches on the cornice of the Custom House, between the triglyphs, suggest that this horizontal surface has also been thought to be a source of water penetration (Figure 3). Physical evidence on the interior of the building, however, does not substantiate this.

The upper flashing at the junction of the 1847 Custom House and the Tower appears to date to the construction of the Tower. It is pitted and its joints have been patched repeatedly with tar and caulking (Figures 3 and 4). The flashing is in need of replacement. The flashing at the junction of the east and west entry roofs is of similar date and condition. The flashing on the east wall appears to be a major contributor to the leaking occurring on the east side of the second floor of the rotunda.

The water penetration on the northeast corner of the building - between floors 10 and 18 - and on the southwest corner - between floors 17 and 20 appears to be associated

with water collecting on the observation deck at the 20th floor. On the northeast corner, the degree of water penetration suggests that there may be an additional source of entry. Therefore, the mortar joints at this corner of the building should be closely inspected as well.

Water damage to interior spaces in the upper tower - floor 20 through 30 - appears to be generated by several different sources. The floor of the observation deck at the 25th floor is one source. Water collects on this horizontal surface and penetrates through the poorly grouted tile. The flashing on the deck is also old and is a probable source for some of the leaking. It is also not clear whether the drains in the deck floor function adequately. They should be tested for adequate flow capacity.

The sloping walls at the top of the tower, which are required to function like a roof, appear to have leaked for years. In these interior spaces, the plaster and metal lath have been totally destroyed. Cracking of the terra-cotta tile further indicates that it has been subjected to repeated wetting. The mortar joints of the angled walls of the tower lack the protection of those in the vertical walls. In many rains, water falls directly on these joints and eventually migrates into the building.

The upper tower and corners of the tower have taken on water for such extended periods of time that the metal anchoring for the stone block is undoubtedly deteriorated. Selective granite block should be removed from these areas and the condition of the anchoring assessed. This investigation should precede any work on the exterior tower masonry, since it will determine the scope of work required.

In addition to isolated areas of severe water penetration, the exterior granite also exhibits deterioration that is typical for a historic building. On the 1847 portion of the building impact fractures and loss occur on the street elevation. Small holes are

randomly found in the granite block where signs were formerly located and grime and rust stains discolor its surface. On the tower, random granite blocks are cracked and many have been patched with caulking (Figure 6). Urban grime and isolated rust stains from lights or signs previously mounted on the building, similarly discolor its surface.

The mortar joints on the Custom House received a coat of white caulk-like pointing in the 1970's. The caulk remains well bonded to the mortar substrate, however, its surface is cracked and its water-repelling capabilities minimal. Aesthetically, it is also incorrect and should be replaced.

Metals

The metals on the exterior of the Custom House and Tower are both decorative and functional. The decorative metals - the bronze entry doors of the east and west elevations, the balcony railing at the 25th floor and the copper spandrels above the windows in floors 16, 17 and 18 are in good condition. Their restoration should only require cleaning and the application of a protective coating. The more functional metals - the copper flashing and protective caps over the projecting blocks of the column capitals are deteriorated and will require replacement.

Windows

The Kalomein windows in the Tower are high-quality early 20th century windows that are remarkably well preserved. Few appear to be in need of significant repair, although it is difficult to assess the condition of the wood since it is completely covered with copper. The few pieces of window that were examined showed the wood was in good condition. More thorough assessment of the condition of these windows could include the disassembly of one of the east elevation windows. In contrast, the 1950 windows in the 1847 portion of the Custom House are of poorer quality and more deteriorated. They should be replaced.

Doors

The wooden doors at the ground floor level of the Custom House date to the 1915 renovations. They are in sound condition and should only require minor repairs and refinishing.

Exterior Restoration Recommendations

The recommendations for the exterior restoration of the Custom House and Tower prepared in 1988 remain accurate. Further investigation and cumulative deterioration recommend the following work as well.

- Redesign of the gutter and leader system of the 1847 portion of the building to increase its capacity to carry water off the roof of the building. Increase the size of the outlet.
- Replace all the flashing at the junction of the Tower and the 1847 Custom House roof.
- Remove the tar and caulk from the existing granite roof block. Remove several blocks to determine how they were originally sealed. Reinstall so that the sealant is not visible.
- Remove granite block at selective locations on the Tower to assess the condition of the anchoring system. Stone should be removed from the sloped walls at the top of the Tower and the northeast and southwest corners.
- Repoint both the Custom House and Tower with a mortar that matches the 1916 mortar in color, texture, and joint profile.
- Cleaning of the building is essentially an aesthetic choice. Soiling of the masonry surfaces is not contributing measurably to their deterioration.
- The application of a water repellent to the building is not recommended. The primary source of water penetration is not through the stone.
- Tile floors of the decks at the 20th and 25th floors should be repaired and their drains checked to assure that they are not blocked and their flow capacity is adequate.
- All exterior metals should be cleaned and an appropriate protective coating applied.

- One Kalomein window should be removed to more thoroughly assess its condition and to evaluate appropriate repairs. Examination of the window should help with the selection of appropriate interior supplementary windows.

INTERIOR

Introduction

Since the preparation of the 1988 Existing Conditions Report, the interior spaces of the Custom House Tower have been unoccupied and minimally maintained. The building has been heated and all plumbing removed from the tower. Heating the building has prevented extreme variation in temperature and relative humidity in the interior spaces that accelerates the deterioration of the plaster and paint. Removal of the plumbing has eliminated the possibility of internally generated water damage.

In the 1847 portion of the Custom House, the rooms remain essentially as they were emptied in 1988. In the tower - floors five through nineteen - some demolition of modern materials has been undertaken. Drop ceilings, carpeting and modern wall partitions have been removed revealing additional Peabody and Stearns building fabric. Regrettably most of the copper tubing of the pneumatic tube system in the tower has also been removed, probably because of its salvage value. This complex system of tubes was exposed on the east side of the dome and illustrated well how a traditional early 20th century technology for moving money and receipts internally was adapted for Boston's first skyscraper.

As in the 1988 existing conditions report, the most serious deterioration in the interior rooms is water generated. Areas of water penetration identified in the 1988 report have not been successfully repaired, and the cumulative effect of repeated wetting has resulted in further damage to the plaster and paint. These areas are concentrated on the second floor of the Custom House and at the corners of the Tower.

Masonry - Marble and Granite

In the three years that have elapsed since the preparation of the existing conditions report, not surprisingly, the condition of the interior marble and granite has changed very little. Cleaning remains their most immediate need. Interestingly, with the removal of some of several large wall-mounted objects in the rotunda, areas of marble and granite that were always protected and never cleaned contrast markedly in color and surface texture with the exposed surfaces. A residue of metal polish enframes the former directory locations (Figure 7). Repointing is also still needed for the long-term preservation and aesthetic appearance of the interior masonry. None of the areas requiring repointing are related to structural problems. In the Tower, pieces of marble trim are missing in some of the office and lobbies. In other rooms, they have been covered over with later partitions.

Plaster and Paint

The plaster and paint in the first and second floors of the 1847 custom House are the most deteriorated of the surviving interior finishes. Remodeled by Peabody and Stearns in 1911-15, these rooms contain the most elaborate plaster and paint finishes in the building. In the Director's Office, the only surviving two story space in the Custom House, water damage on the east and south walls has resulted in significant areas of plaster loss, both in the molded plaster cornice and the flat wall surfaces. Water penetration has been so severe that the metal lathe with which the ceiling and walls were constructed has rusted through. Restoration of these finishes will therefore require complete rebuilding, rather than patching (Figures 8-11). Examination of the Director's Office reveals that the water generated deterioration is primarily isolated on the east and south walls. On the cove ceiling, and the north and west walls of the Director's Office, paint failure is not generated primarily by water penetration. Rather it is a failure of the paint itself. On these surfaces the original water soluble distemper paints are inadequately bonded to the plaster substrate. When multiple layers of heavy

oil base paint are applied on top of these distemper paints, they fail. This results in large areas of peeling paint in the absence of the staining and plaster loss which are associated with moisture penetration. This type of paint failure is accelerated by high levels of moisture in a room as often occurs in the Director's Office due to the leaking on the east and south walls, however, it is not generated by direct water penetration (Figure 12).

This pattern of paint and plaster deterioration reveals that the gutter system of the east wall and the flashing of the 1847 roof and the Tower are the sources of water penetration of the Director's Office, rather than the roof. The east roof gutter enters the building at the southeast corner of the Director's Office. Its leader comes through the wall in a jagged stone break that has cavities on either side. Water either leaking through the leader or overflowing the gutter runs into these cavities and migrates through the walls. The opening in the gutter is only about 3" in diameter and does not appear to be adequate to carry the flow of water from the gutter. The other source of water on the south wall is the flashing at the junction of the 1847 roof and the Tower. Caulking has been used to seal many of the joints in the flashing and it is cracked and deteriorated.

In addition to causing plaster and paint deterioration, the water deterioration has also caused significant damage to the concrete floor in the balcony of the Director's Office. The reinforcing of this floor should be checked prior to patching (Figure 13).

The Director's Private Office, a small room located at the southeast corner of the Director's Office, exhibits plaster and paint deterioration similar to that in the Director's Office. On the north and east walls, plaster and paint loss are nearly 100%.

The other rooms on the north side of the first floor, the Customs Society's Office, the Assistant Collector's Office and the North Wing Lobby, show evidence of previous and less serious water penetration. On the south wall of the lobby there is evidence of staining prior to the last repainting. Peeling paint and an unusual cracking pattern in the plaster walls also suggests some moisture penetration, probably related to flashing. There is no evidence of severe water penetration where the southwest leader enters the building, although there is extensive paint failure in the west bathroom.

In the south wing of the first floor - the Import Control Office - water has penetrated down through the east wall from the floor above causing damage to the plaster cornice and paint to peel. At the north end of the east wall, portions of the cornice have fallen and the surrounding plaster is crumbling. Similar plaster and paint deterioration is occurring in the small room at the north corner of the of the Import Control office. This area of water penetration appears to be active (Figures 14, 15).

On the second floor of the 1847 portion of the Custom House the patterns of water penetration mirror those of the first floor, but tend to be more severe, since they are closer to the roof and gutters. The exception is the Director's Office, which was described with the first floor, since it is a two-story space. It has the most deteriorated interior finishes in the Custom House.

There is evidence of extensive and prolonged water damage on the north wing of the second floor. Paint is peeling in large sheets in a pattern that matches the cracking in the plaster walls. This cracking pattern, as well as staining, confirm a high moisture content in the walls. In some areas, the high moisture content has caused the plaster to crumble (Figures 16, 17).

In the south wing of the second floor - the Auditor's Office - plaster and paint deterioration is severe. The pattern of damage is similar to that in the north wing - Director's Office - concentrated in the northeast and northwest corners of the room where the leaders from the roof gutters enter the building. Examination of the area of the east wall through which the leader passes reveals the rough cut in the stone wall with a cavity that naturally collects any leaking water. In this opening is an old lead pipe that has been cut off. The lead pipe, which is approximately 2" in diameter, remains from an earlier drainage system. It may be another source for the moisture getting into the walls. Water is presently coming through the east wall in measurable amounts. Paint is peeling, plaster crumbling and the metal lathe has rusted through, destroying its structural capacity (Figures 18-20). In the west wall, water penetration does not appear to be active, however, areas of lost molded plaster cornice confirm that the problem existed in the past for an extended period of time (Figure 21).

In the small room on the north side of the east alcove, plaster and paint damage is also severe. The source of this moisture is the southeast leader in the north roof and the east pediment flashing (Figure 22).

In the rotunda the ceiling paint is in relatively good condition. It exhibits typical aging characteristics - cracking and peeling. None of this deterioration is water generated, rather it is the natural deterioration of the paint materials.

In the Tower damage to the paint and plaster is isolated. Since the preparation of the existing conditions report in 1988, removal of many dropped ceilings and later partitions reveals that most of the 1911-16 Peabody and Stearns plaster and paint is in good condition. The general exception is the bathrooms, where high levels of moisture generated by the interior plumbing fixtures has caused paint failure.

The isolated areas of water penetration occur principally on the east elevation of the Tower and at the corners. On the 7th and 8th floors there are several areas of the east wall where the paint is peeling and plaster crumbing (Figure 23). On the northeast corner of the Tower water generated damage begins between the tenth and eleventh floors and continues up through the eighteenth floor. This pattern of water penetration suggests that there may be a flashing problem at the northeast corner of the observation deck at the 20th floor. Over time, moisture has opened up the joints between the stone so that water now readily travels down the wall. On the southwest corner of the building paint and plaster deterioration occurs between floors 17 and 18. Again, it appears that water migrating through the observation deck floor is causing the damage (Figures 24-28).

As described in the 1988 Existing Conditions Report, the plaster and paint in floors 24 through 30 are markedly deteriorated due to years of water penetration. In many of these spaces loss is complete, even the metal lath has rusted off its anchoring. The terra cotta tile beneath is cracked, but appears to be structurally sound. Due to the advanced levels of deterioration in these spaces, it is difficult to assess whether water penetration is active. Clearly these are vulnerable spaces for water penetration and should be carefully checked during comprehensive restoration of the tower.

Metals

Since 1988, the condition of the interior metals is essentially unchanged. Confirmation of the metal types in the rotunda awaits further analysis. Metal trim in the tower was grained to look like wood. The grained finish is damaged and will require repair if any of these spaces are to be restored.

Woodwork

Most of the interior woodwork is concentrated in the 1847 Custom House. The woodwork is generally in good condition, but is in need of finish restoration. The finishes appear to have been reapplied numerous times, so that restoration would involve identifying the original finish and recreating it rather than repairing the existing finish.

Interior Restoration Recommendations

The 1988 interior restoration recommendations remain accurate. Restoration of the interior finishes will be more involved since the deterioration of the paint and plaster has been cumulative. Some of the areas of deteriorated plaster will require the replacement of the metal lathe. Large areas of molded plaster will require recasting.

Restoration of the interior finishes in the 1847 portion of the building should be based upon thorough paint analysis. The rotunda, Director's Office, and Auditor's Office are the rooms that merit the most accurate restoration.

Cleaning of the interior granite and marble should be based upon comprehensive testing. Since granite and marble should be cleaned with different materials, cleaning should be supervised by an experienced architectural conservator.

ILLUSTRATIONS

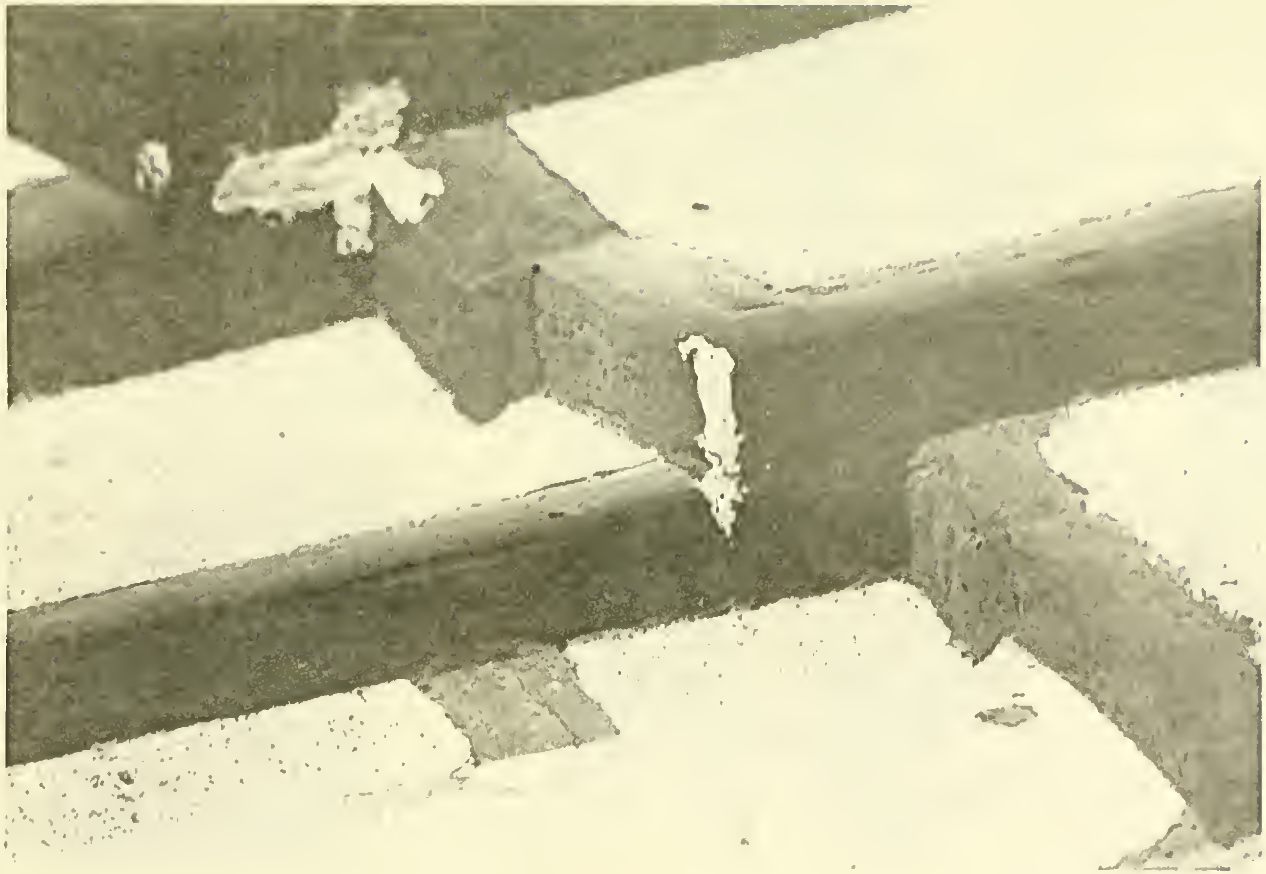


Figure 1

The Custom House and Tower
Boston, Massachusetts

Granite block of the 1847 Custom House roof. Joints covered with black roofing tar and white caulking.

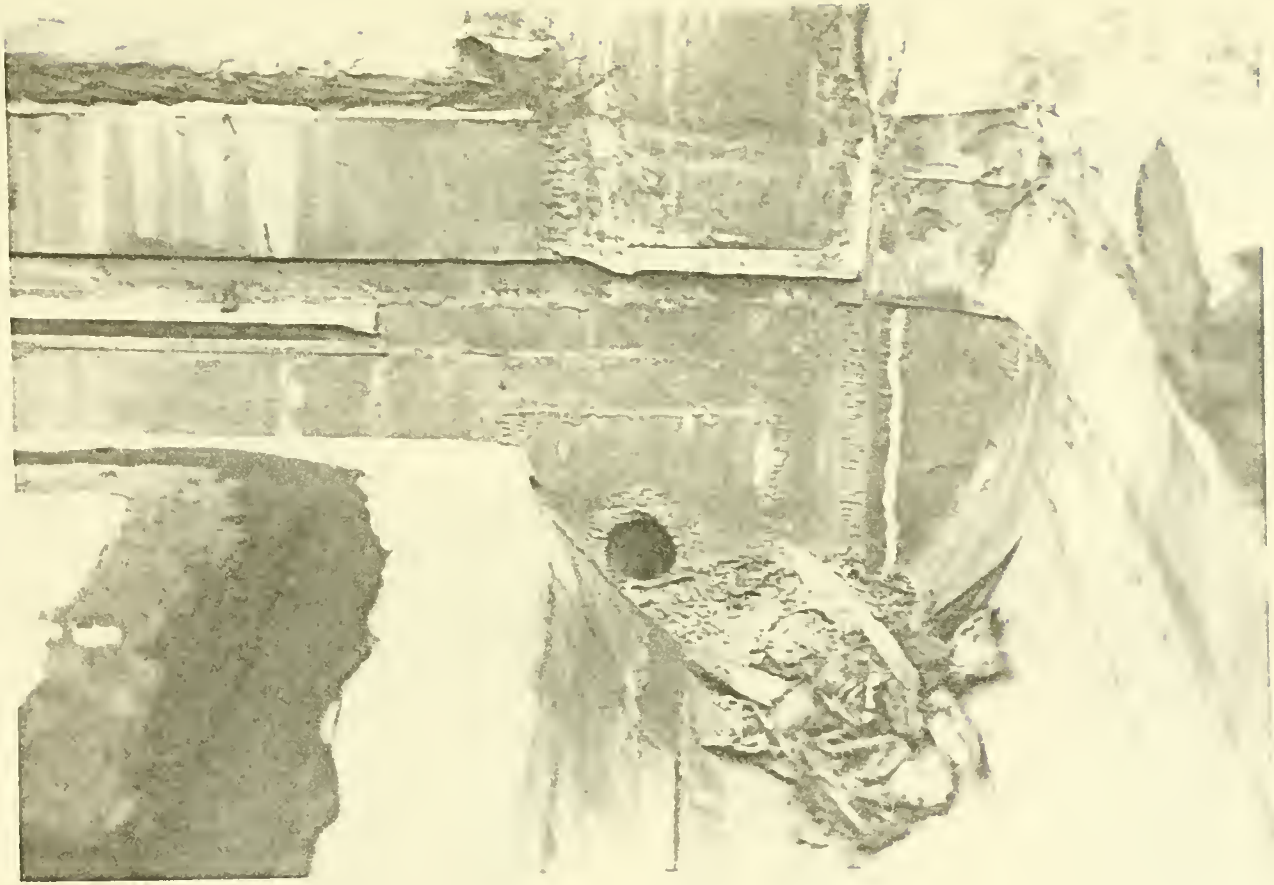


Figure 2

The Custom House and Tower, Boston, Massachusetts

Gutter on the east elevation of the south roof of the 1847 Custom House. This large gutter has only a single 3" diameter outlet that is easily and frequently blocked by debris. The falcons appear to be significant contributors to this debris.

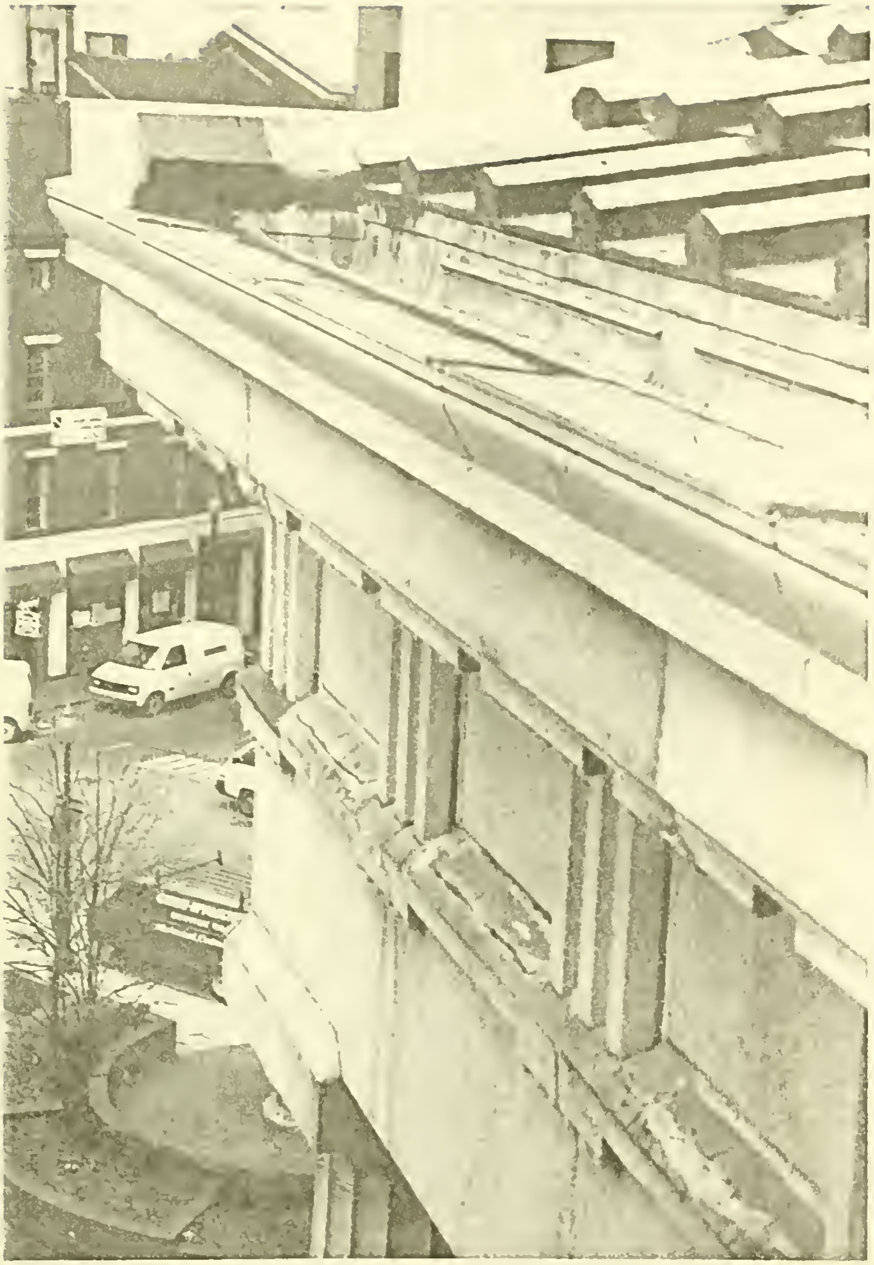


Figure 3

The Custom House and Tower
Boston, Massachusetts

1847 Custom House cornice showing remedial patching between the triglyphs.

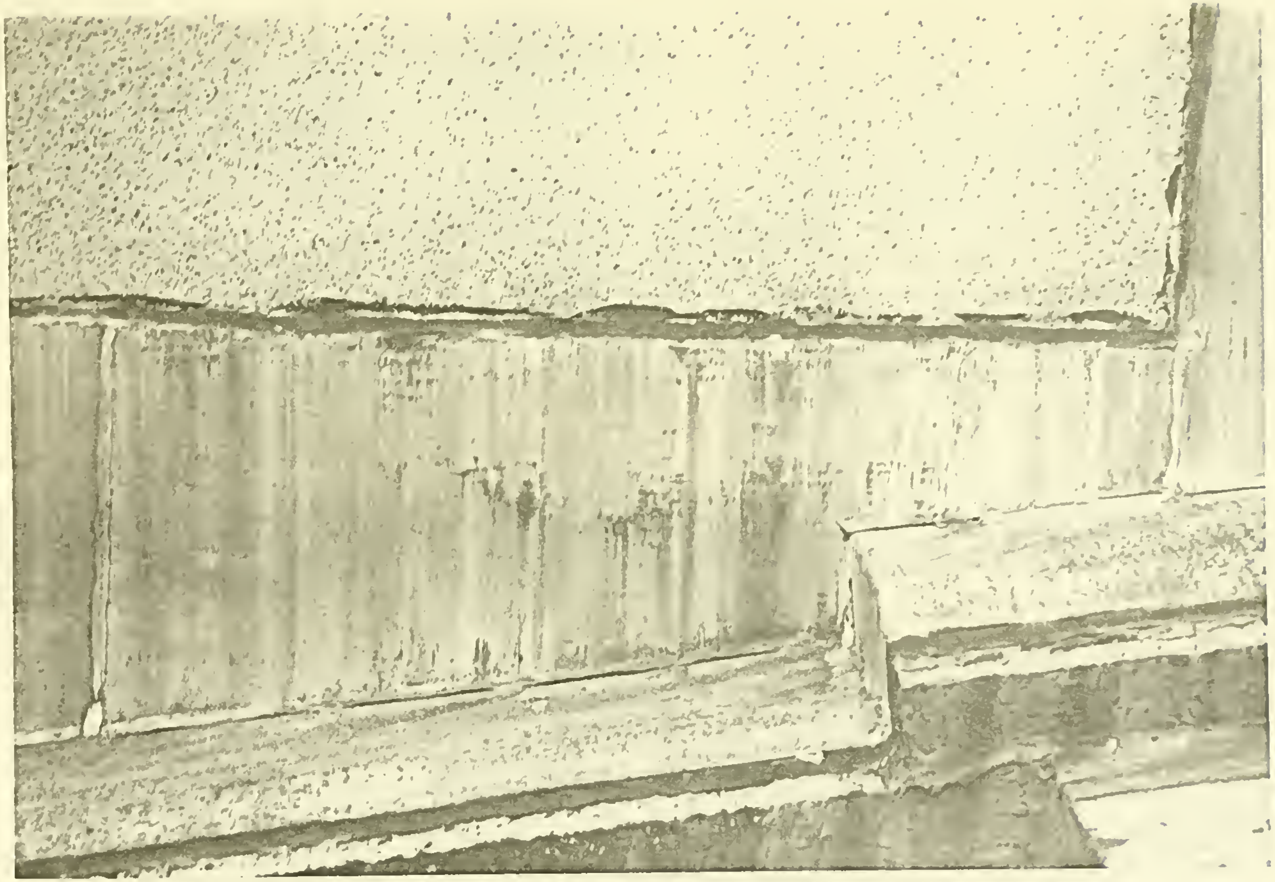


Figure 4

The Custom House and Tower
Boston, Massachusetts

Deteriorated flashing and caulking at the junction of the 1847 Custom House roof and the north wall of the Tower.

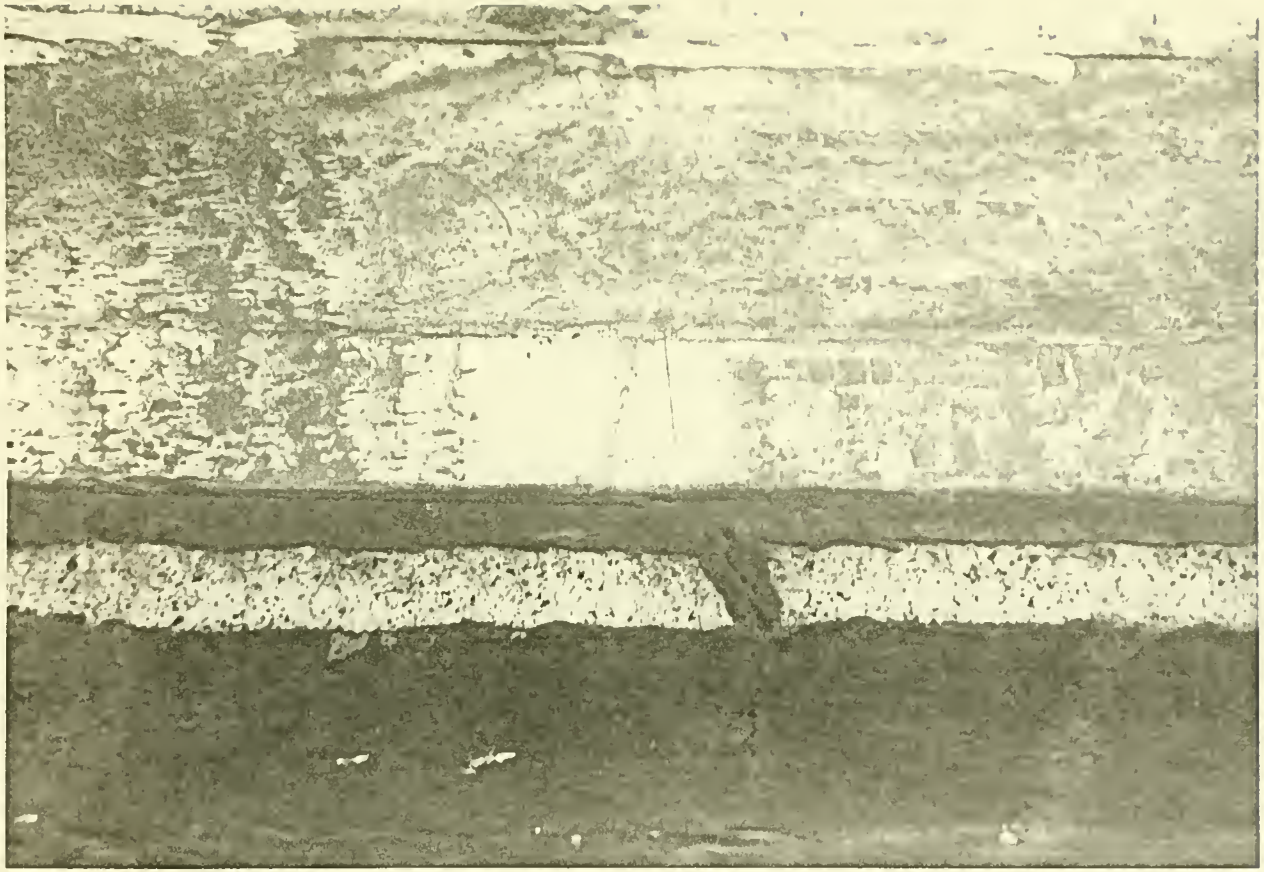


Figure 5

The Custom House and Tower
Boston, Massachusetts

Deteriorated flashing and caulking at the junction of the 1847 Custom House roof and the north wall of the Tower.

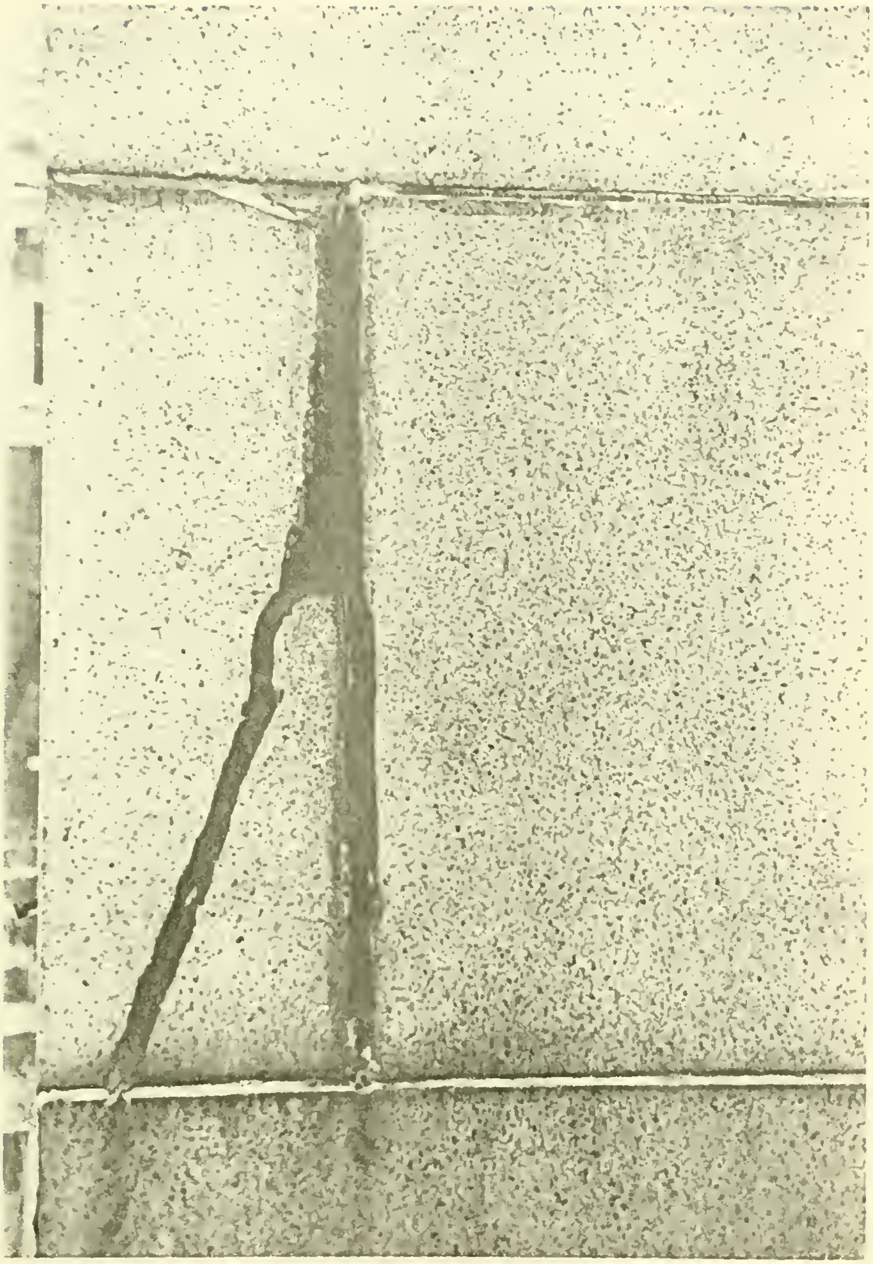


Figure 6

The Custom House and Tower
Boston, Massachusetts

Tower - North wall. Cracked granite that has been patched with caulking.

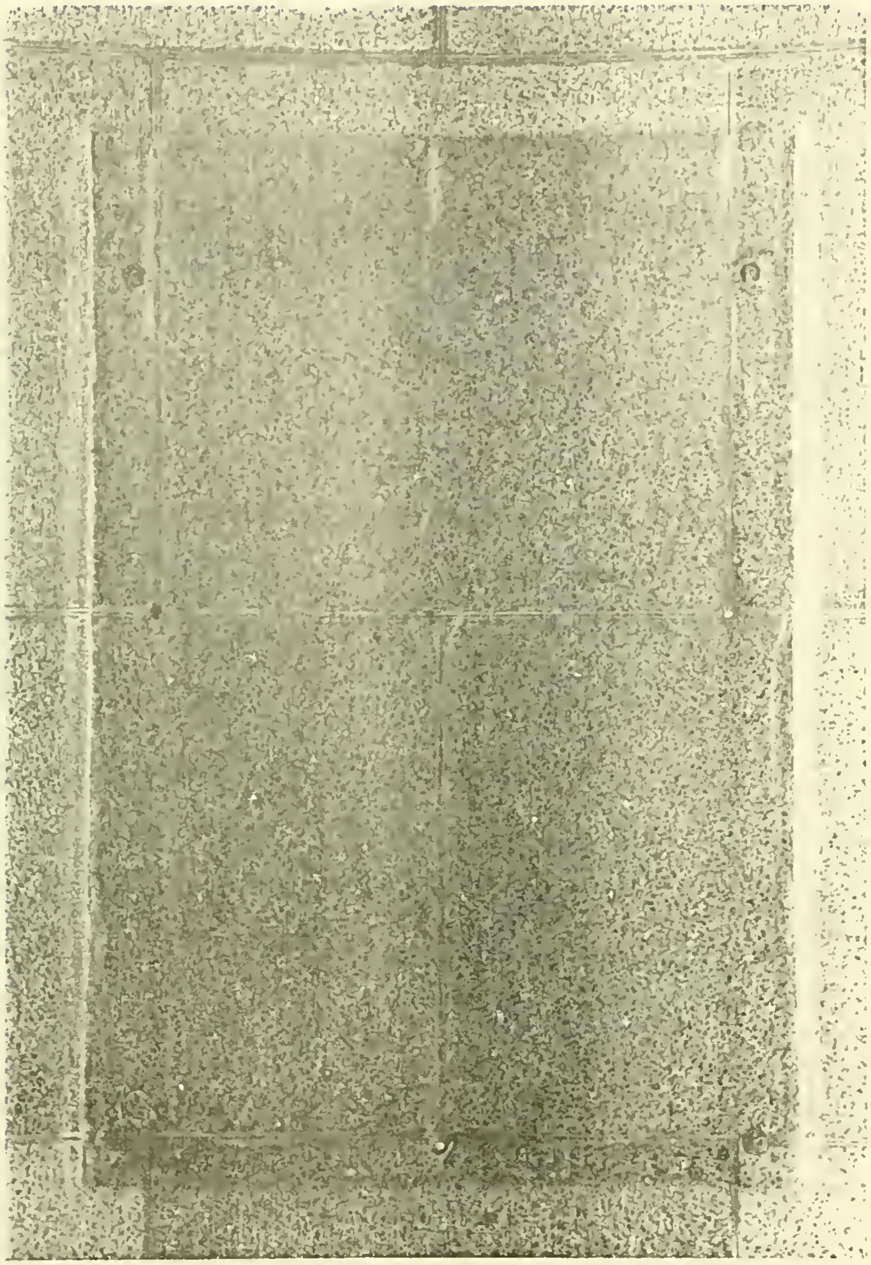


Figure 7

The Custom House and Tower
Boston, Massachusetts

Interior granite walls showing variable discoloration due to surface cleaning of the stone and the frame of the directory that was mounted on the wall.

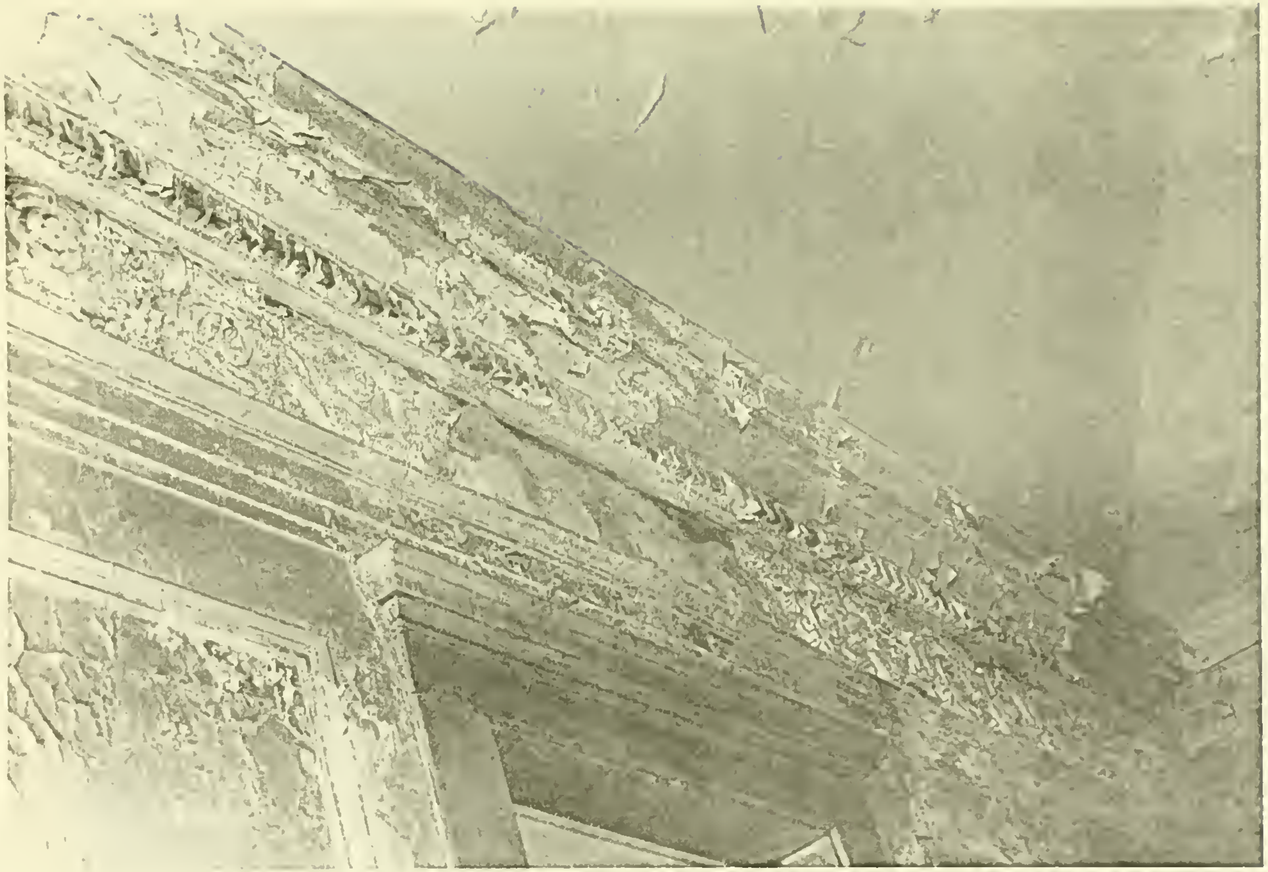


Figure 8

The Custom House and Tower, Boston, Massachusetts

First Floor - Director's Office. East wall cornice. Deteriorated paint and plaster caused by water penetrating the walls through the gutter system on the east elevation of the 1847 Custom House.

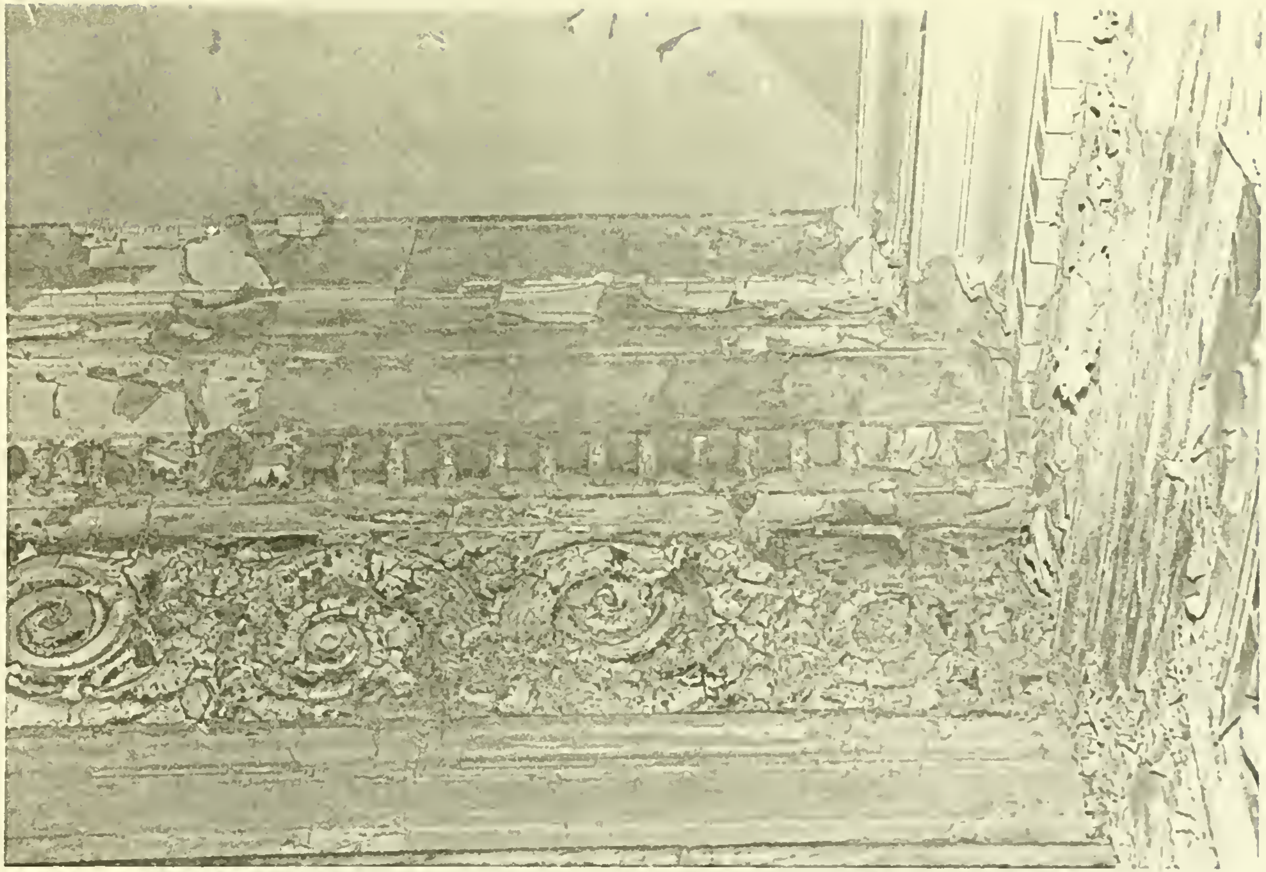


Figure 9

The Custom House and Tower
Boston, Massachusetts

First Floor - Director's Office. Southeast corner - cornice.

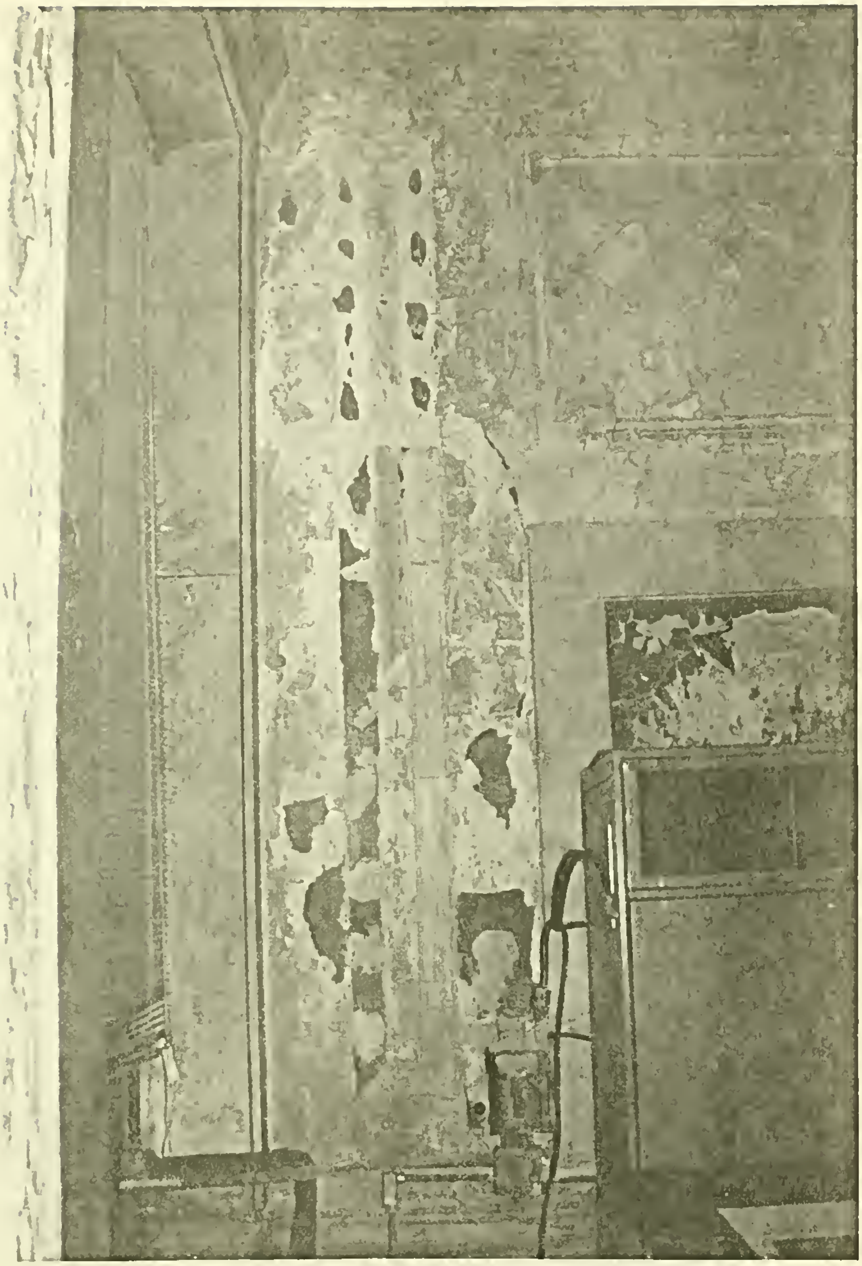


Figure 10

The Custom House and Tower
Boston, Massachusetts

First Floor - Director's Office. Southeast corner, balcony wall. Severely deteriorated plaster.

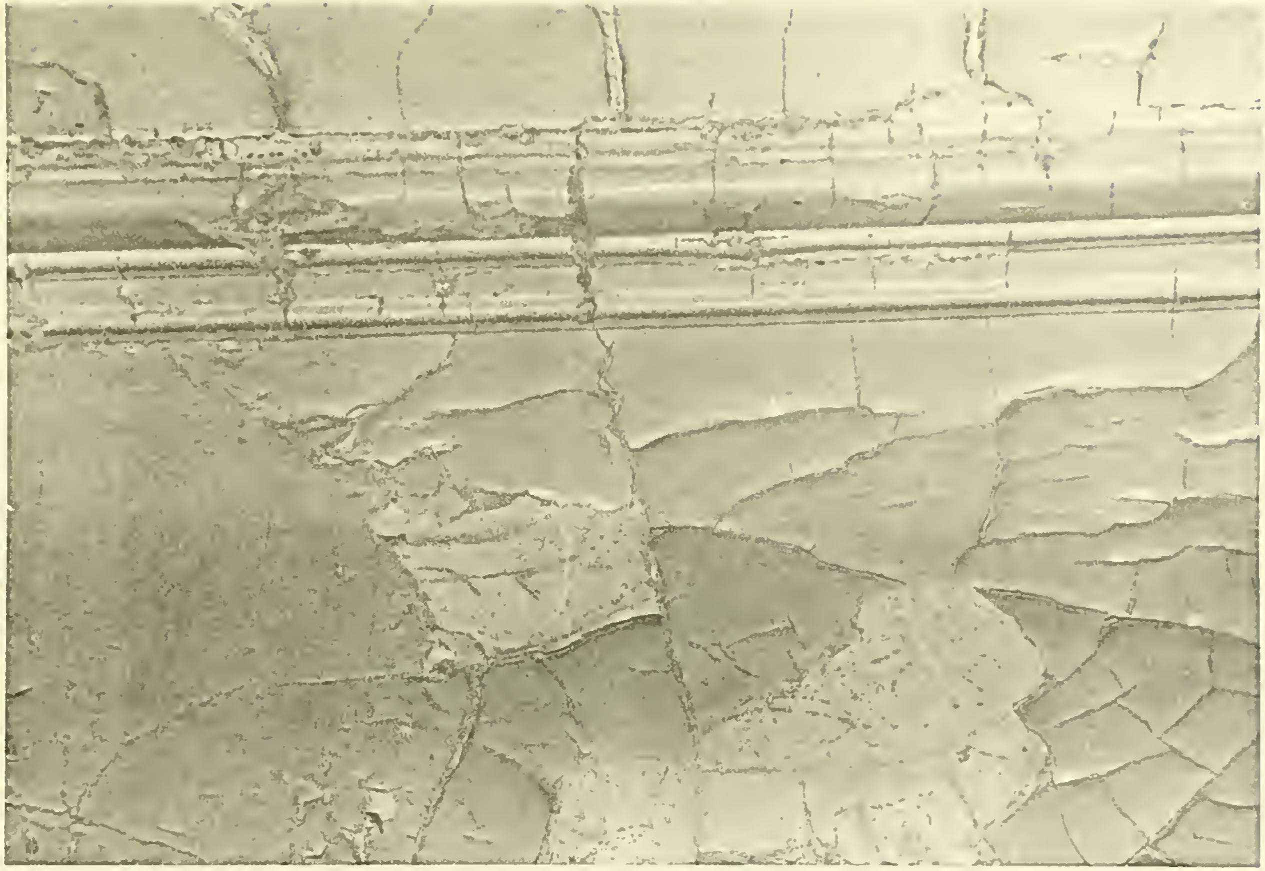


Figure 11

The Custom House and Tower
Boston, Massachusetts

First Floor - Director's Office. East balcony wall. Severely deteriorated paint surface.

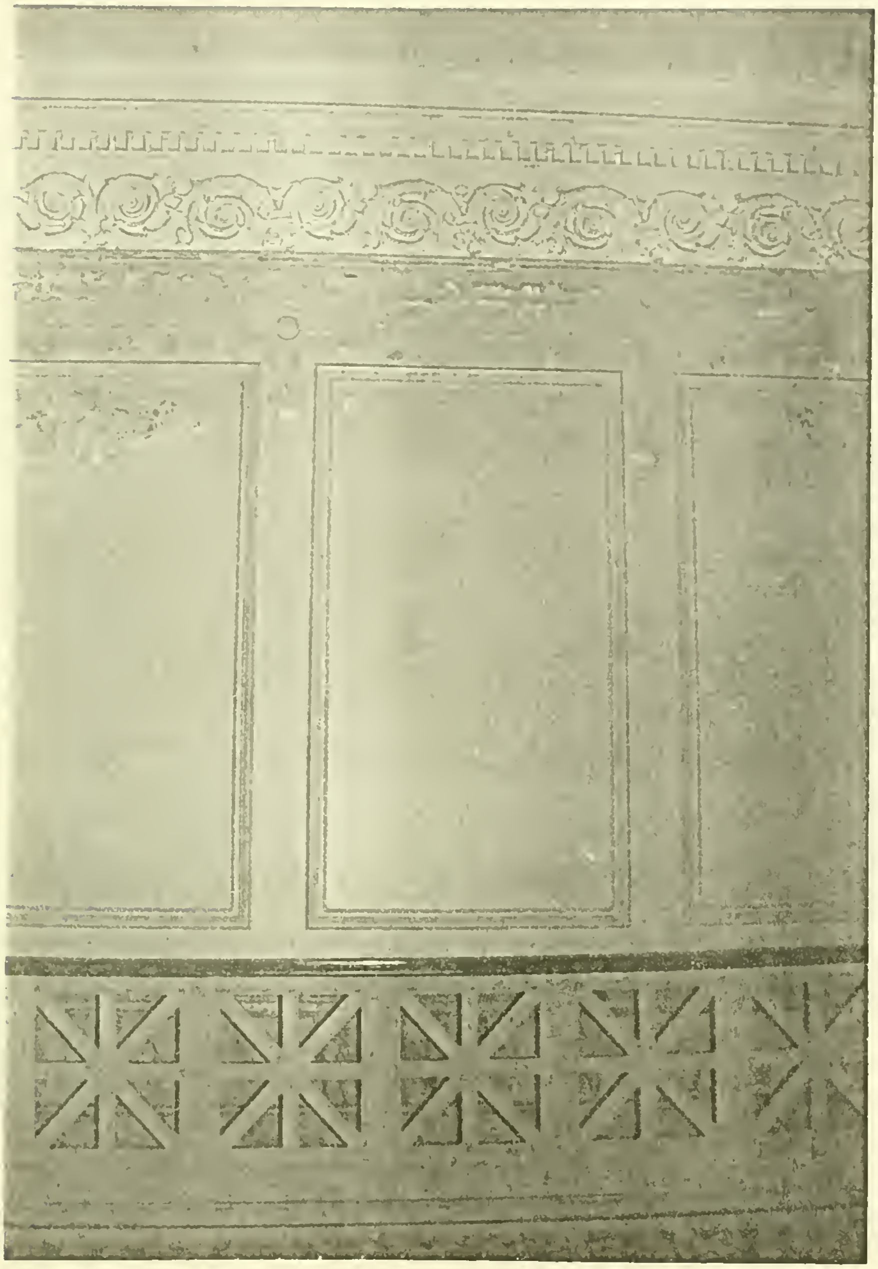


Figure 12

The Custom House and Tower
Boston, Massachusetts

First Floor - Director's Office. West wall - paint failure.

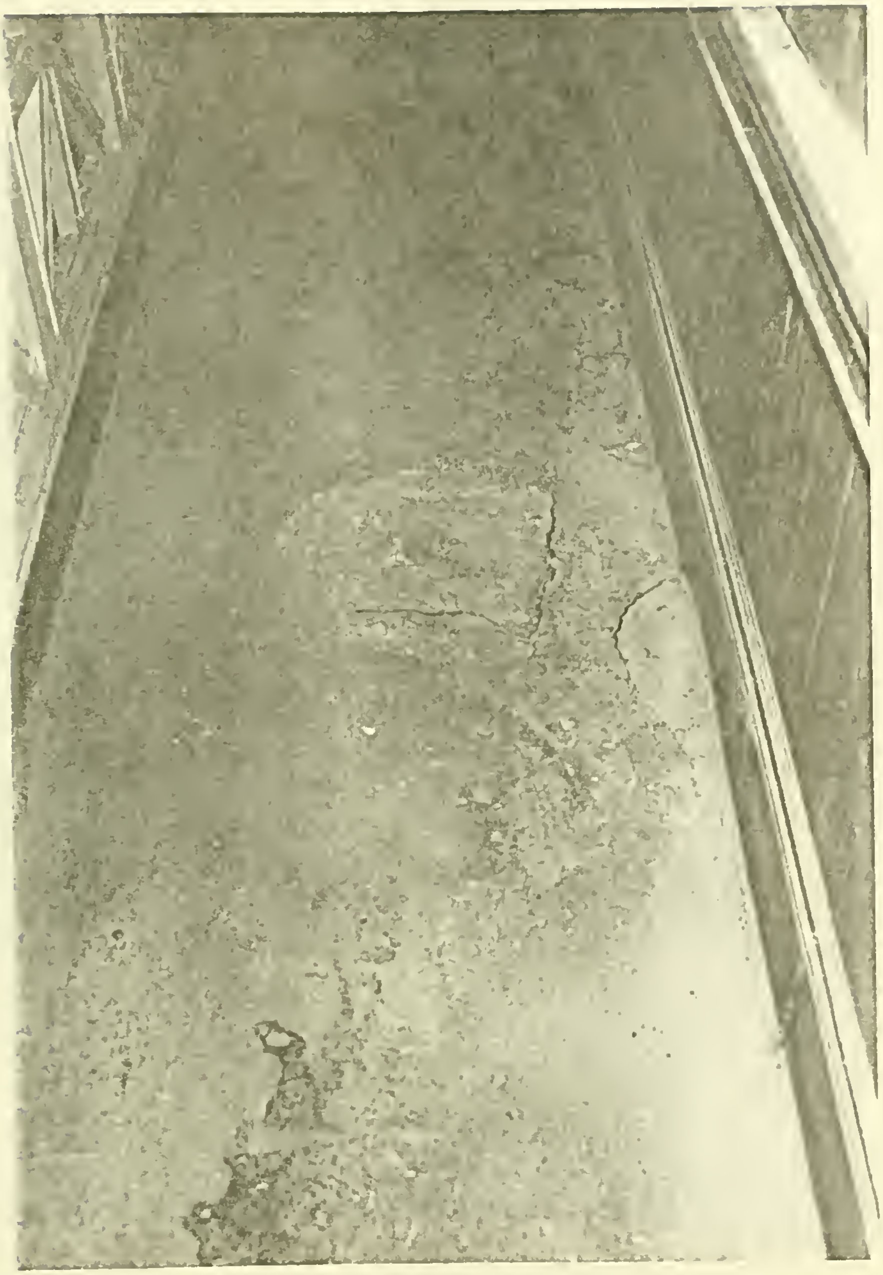


Figure 13

The Custom House and Tower
Boston, Massachusetts

First Floor - Director's Office. East wall - balcony floor - deteriorated concrete.

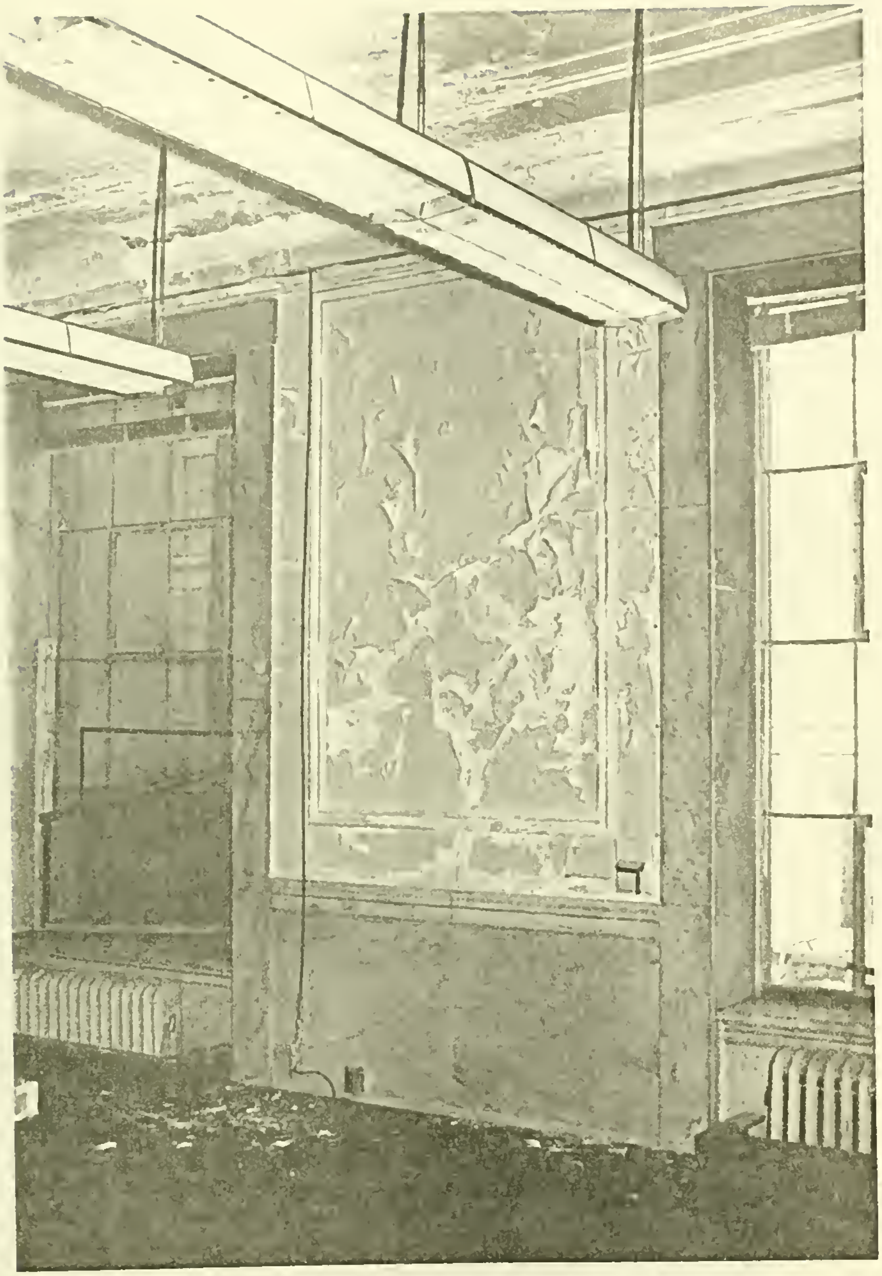


Figure 14

The Custom House and Tower
Boston, Massachusetts

First Floor - Import Control Office - Northeast corner.
Deteriorated paint and plaster.

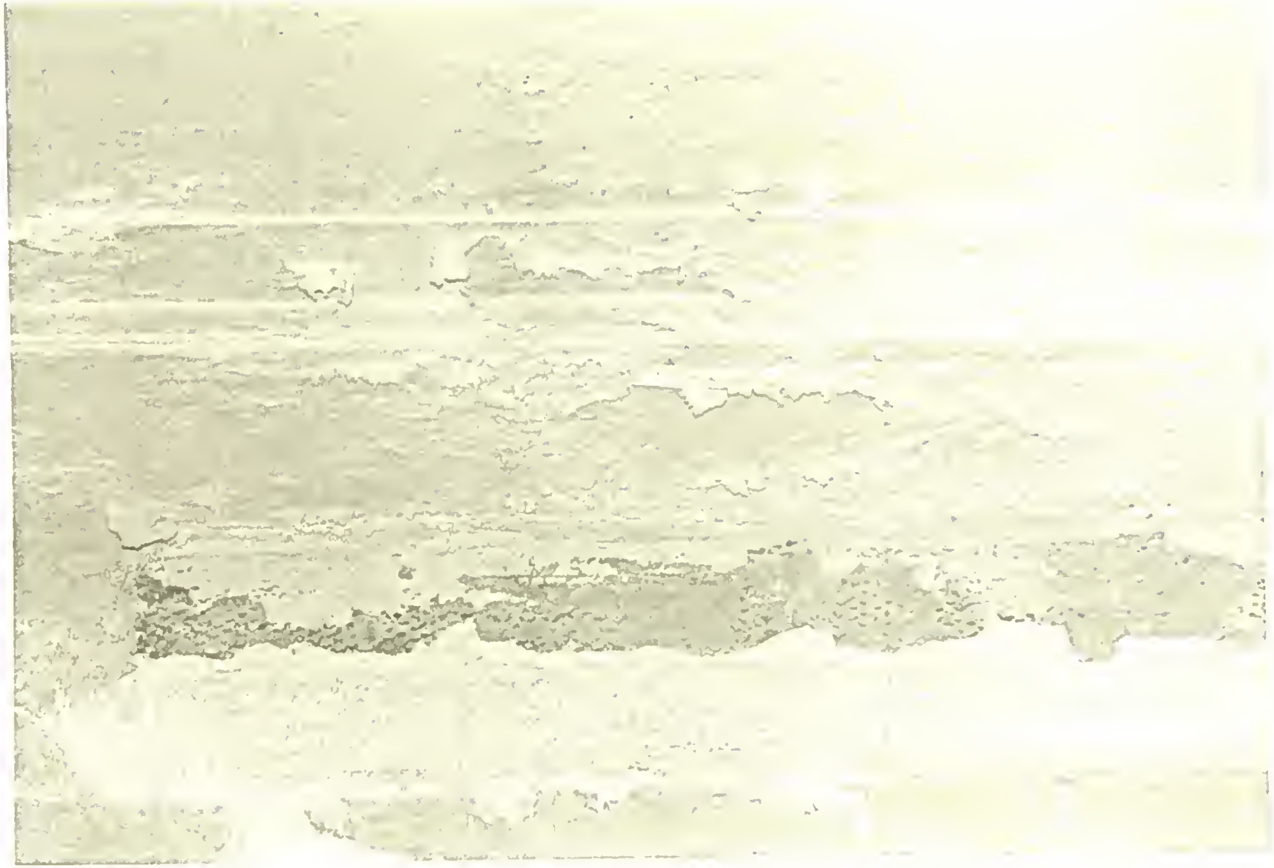


Figure 15

The Custom House and Tower
Boston, Massachusetts

First Floor - Import Control Office. Northeast corner. Plaster loss exposing rusted metal lathe.

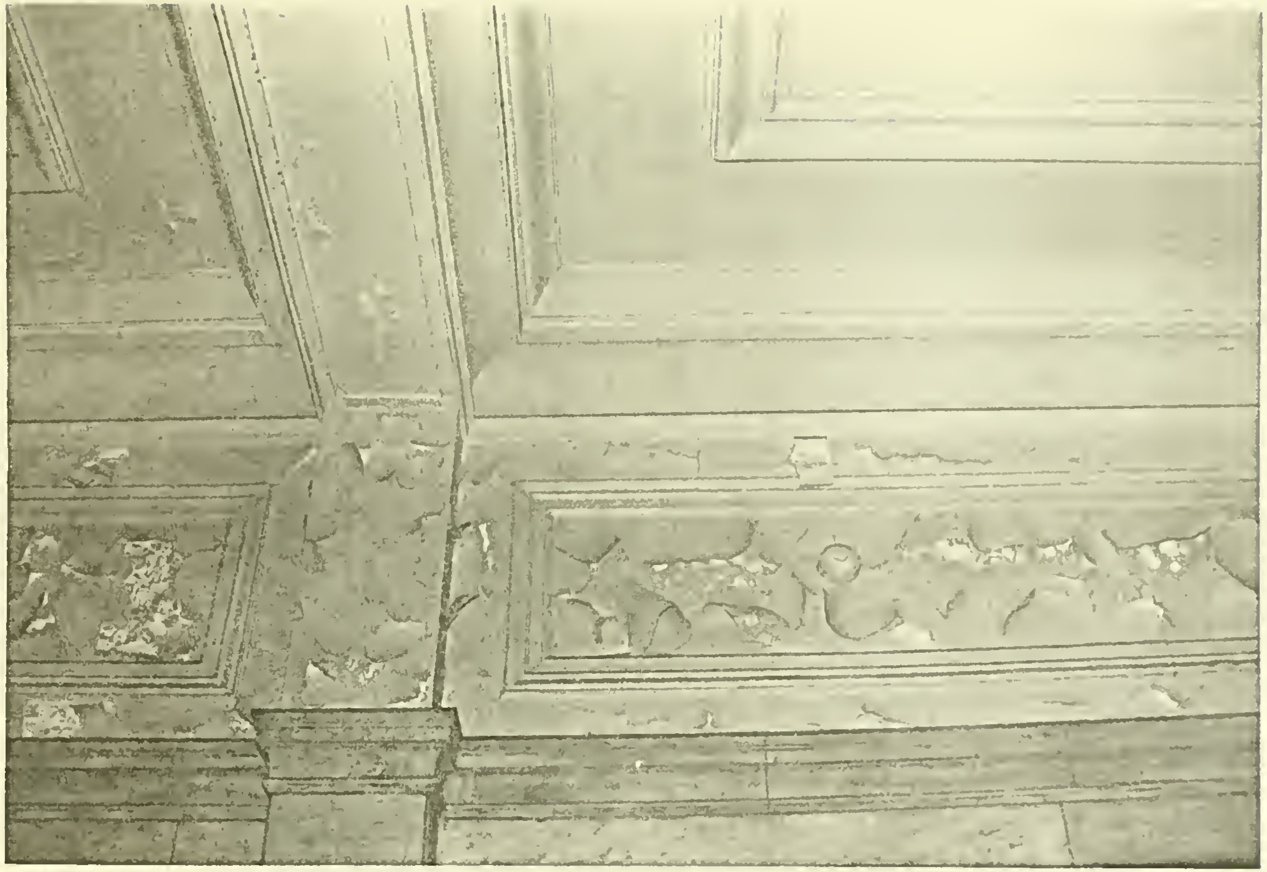


Figure 16

The Custom House and Tower
Boston, Massachusetts

Second Floor - North Wing Lobby. Plaster cornice and ceiling with peeling paint.

Figure 17

The Custom House and Tower
Boston, Massachusetts

Second Floor - Northwest Room - South wall. Cracked plaster and peeling paint that have resulted from moisture in the walls.

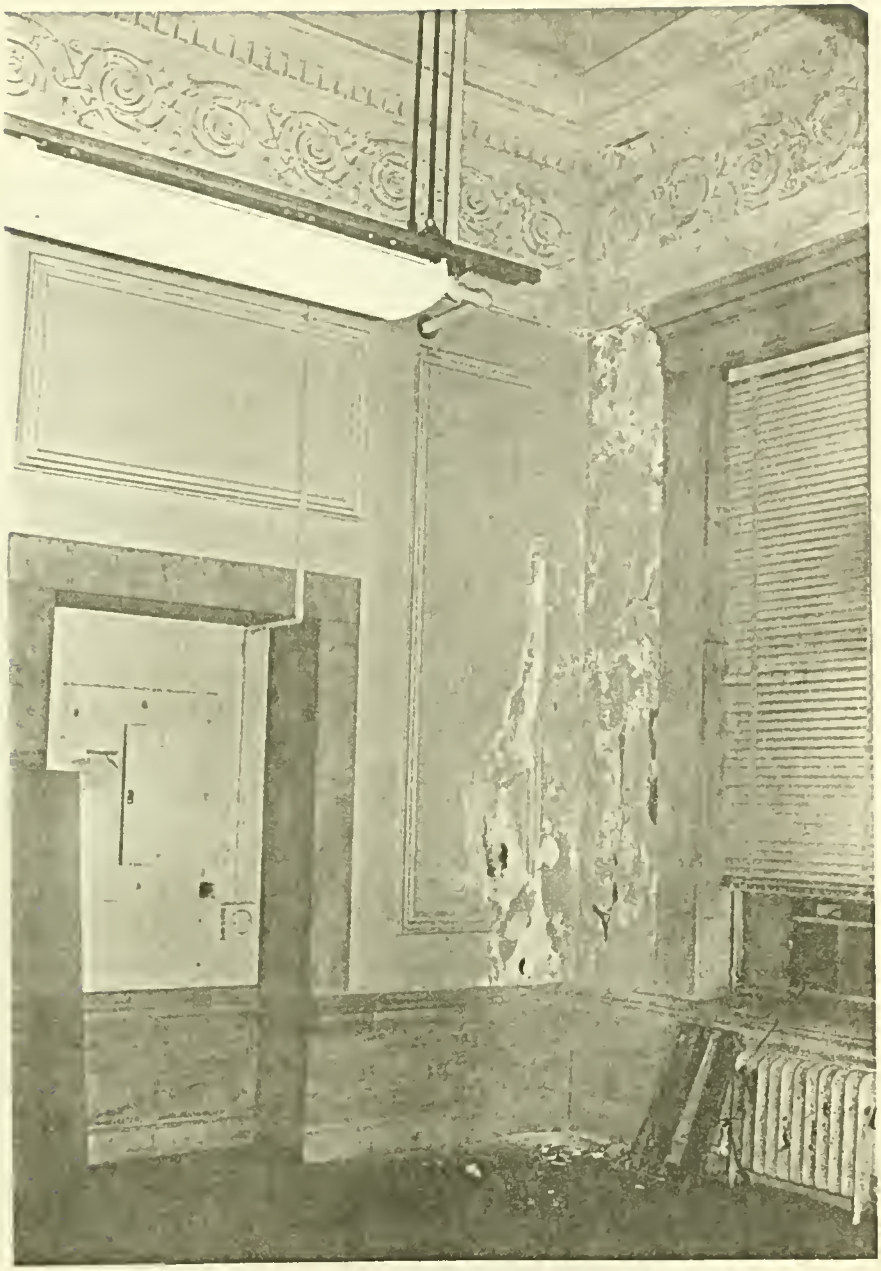


Figure 18

The Custom House and Tower
Boston, Massachusetts

Second Floor - Auditor's Office - Northeast Corner.
Deteriorated plaster and paint.

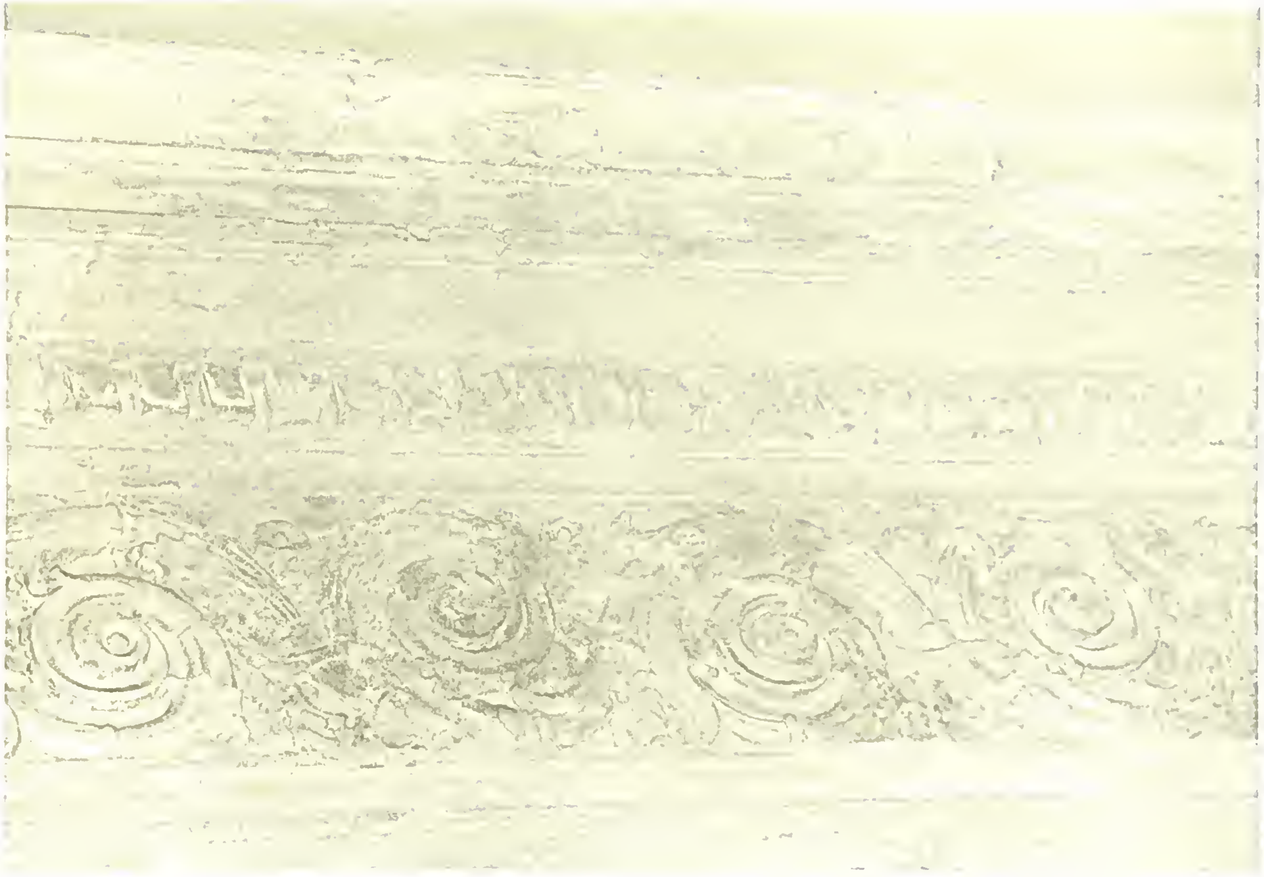


Figure 19

The Custom House and Tower
Boston, Massachusetts

Second Floor - Auditor's Office. East wall - cornice.

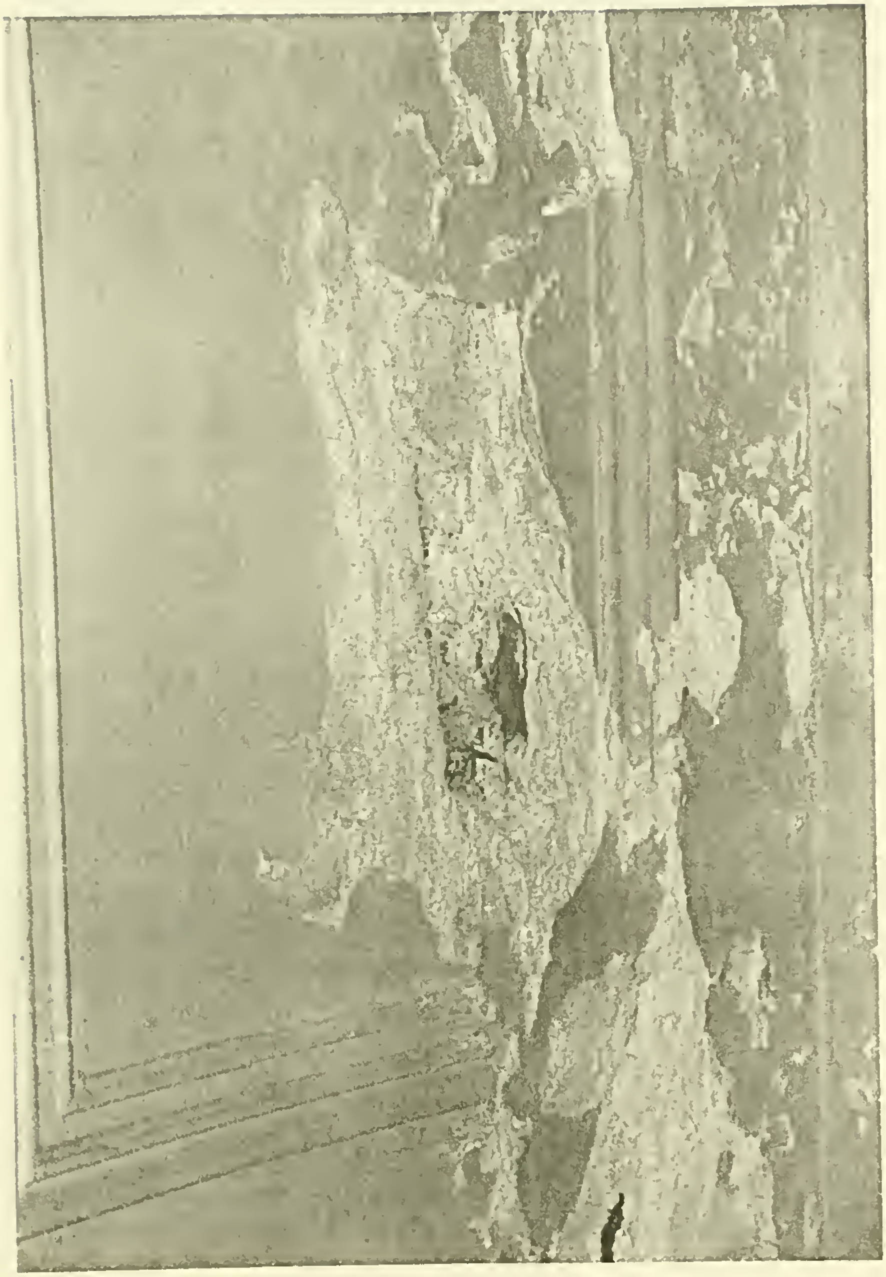


Figure 20

The Custom House and Tower
Boston, Massachusetts

Second Floor - Auditor's Office - North wall. Severely deteriorated plaster with rusted metal lathe.

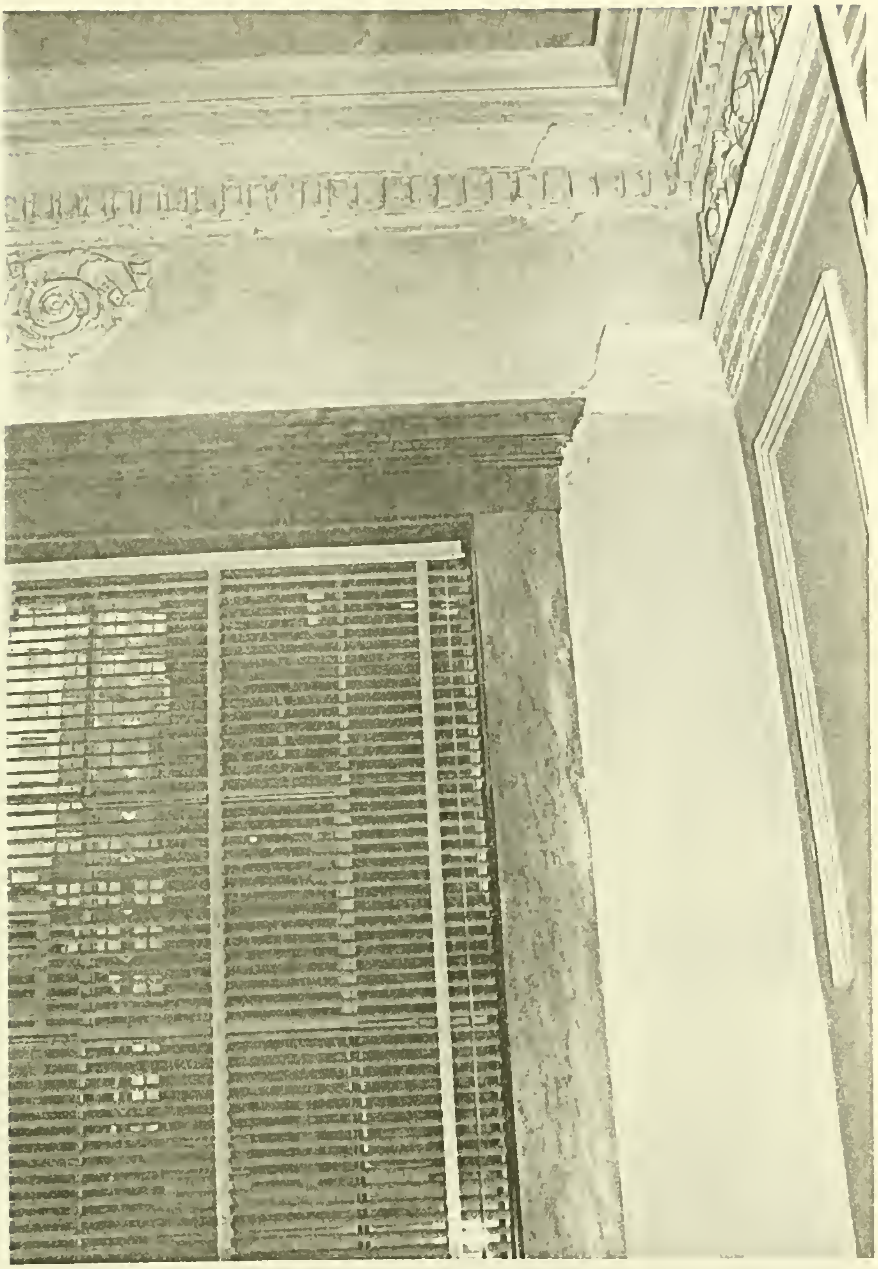


Figure 21

The Custom House and Tower
Boston, Massachusetts

Second Floor - Auditor's Office - Northwest corner - Cornice. Area of total molded plaster loss.

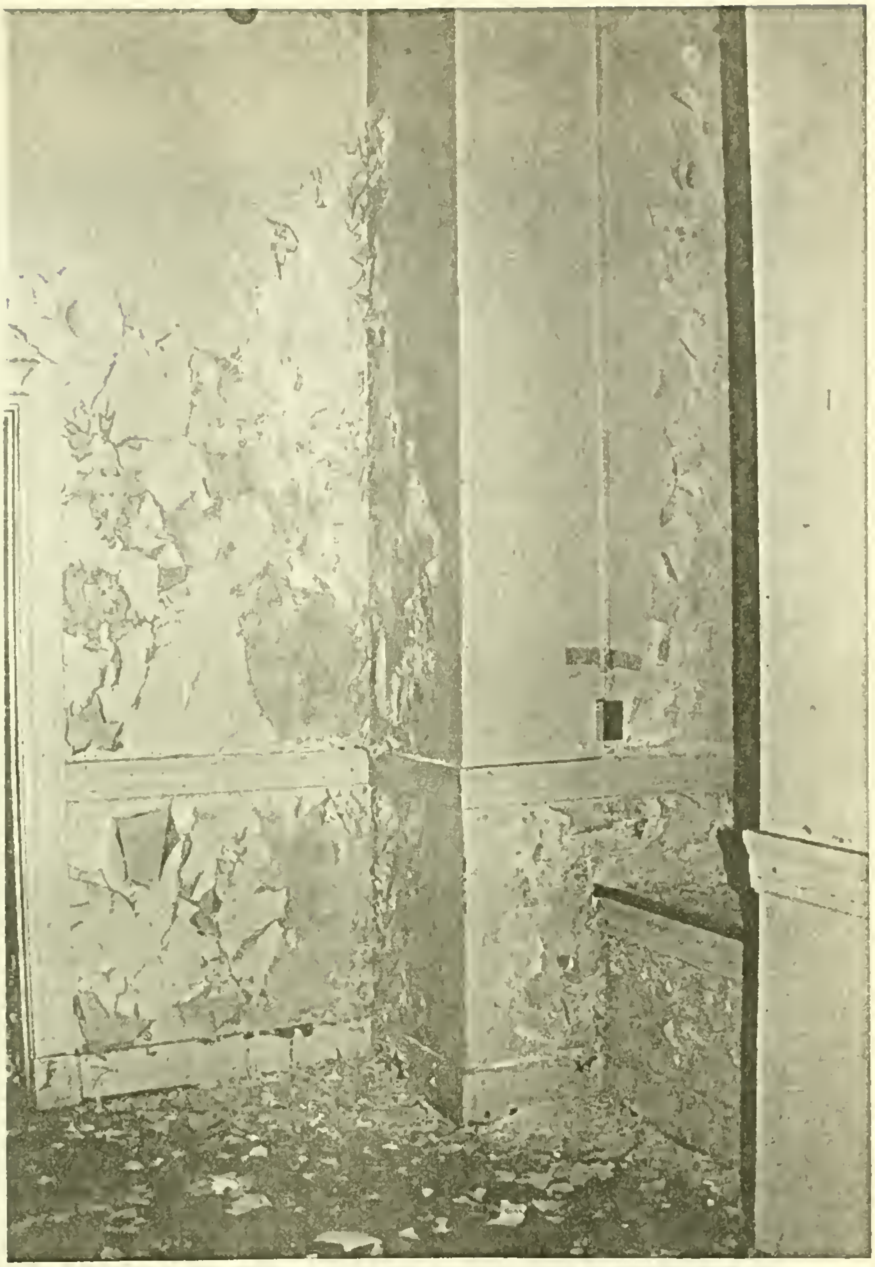


Figure 22

The Custom House and Tower
Boston, Massachusetts

Second Floor - Small room at the north side of the east alcove showing advanced plaster and paint deterioration.

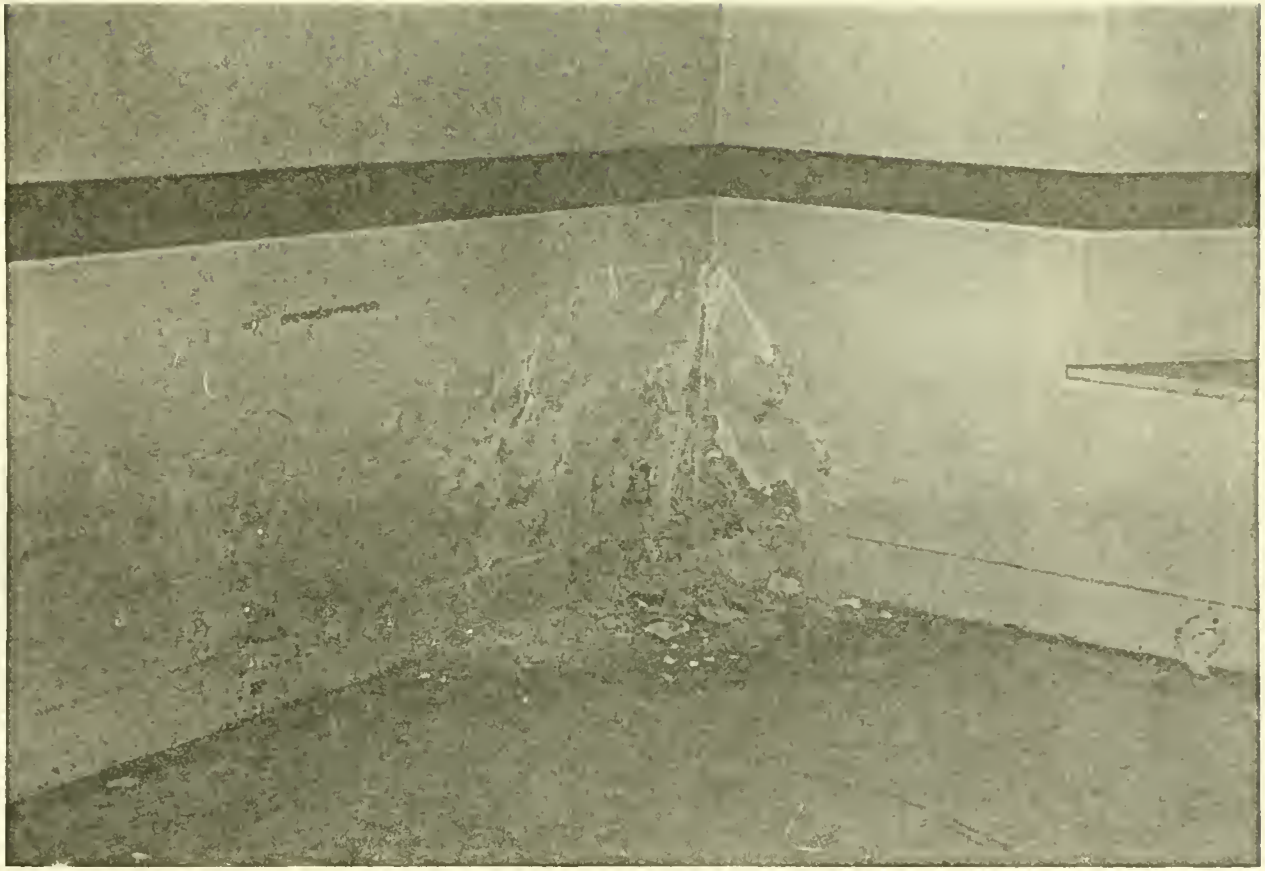


Figure 23

The Custom House and Tower
Boston, Massachusetts

Eighth floor - Southeast corner. Advanced plaster deterioration.

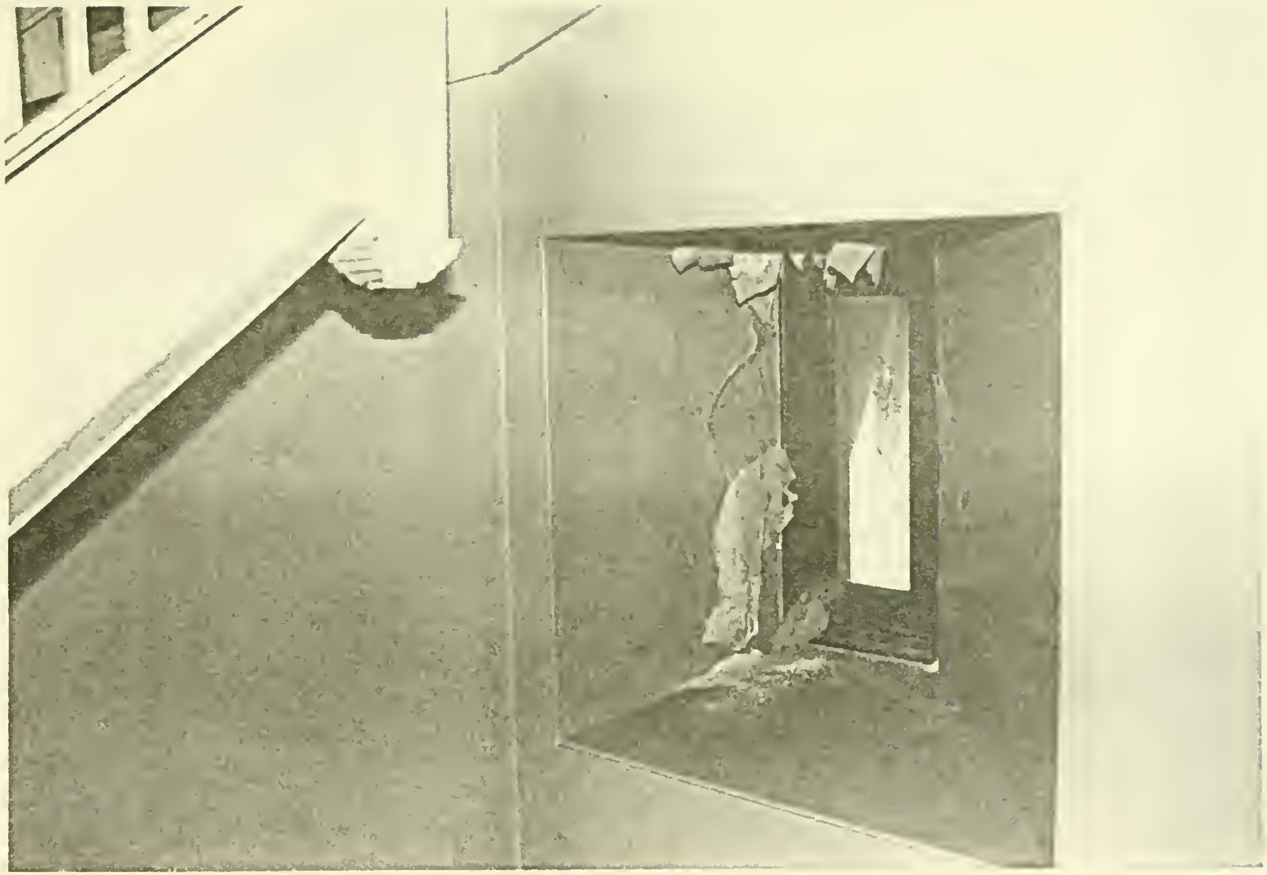


Figure 24

The Custom House and Tower
Boston, Massachusetts

Northeast stair - Between floors 10 and 11. Peeling paint and crumbling plaster.

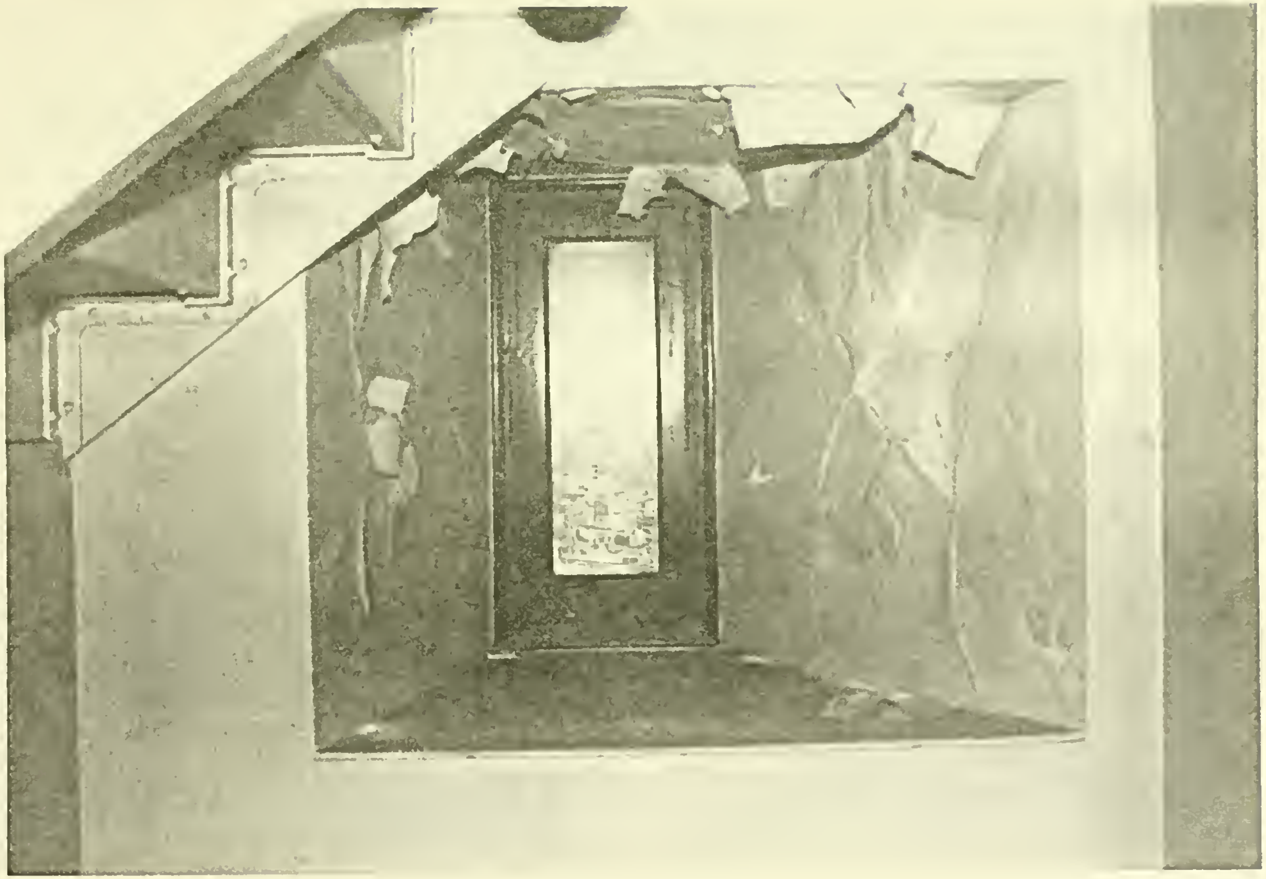


Figure 25

The Custom House and Tower
Boston, Massachusetts

Northeast stair - Between floors 11 and 12. Peeling paint and deteriorated plaster.

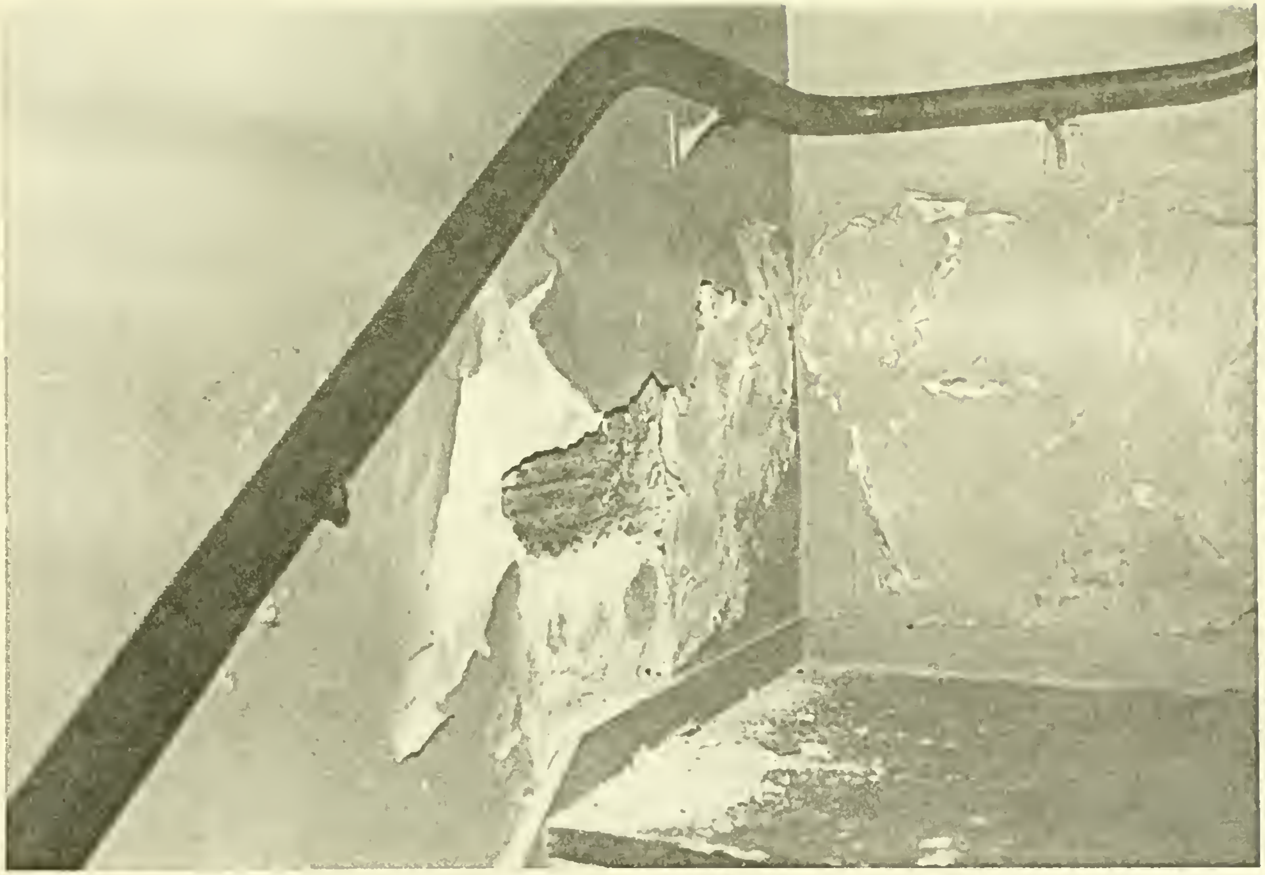


Figure 26

The Custom House and Tower
Boston, Massachusetts

Northeast stair - Between floors 15 and 16. Paint and plaster deterioration. Area of plaster loss exposes terra-cotta block.

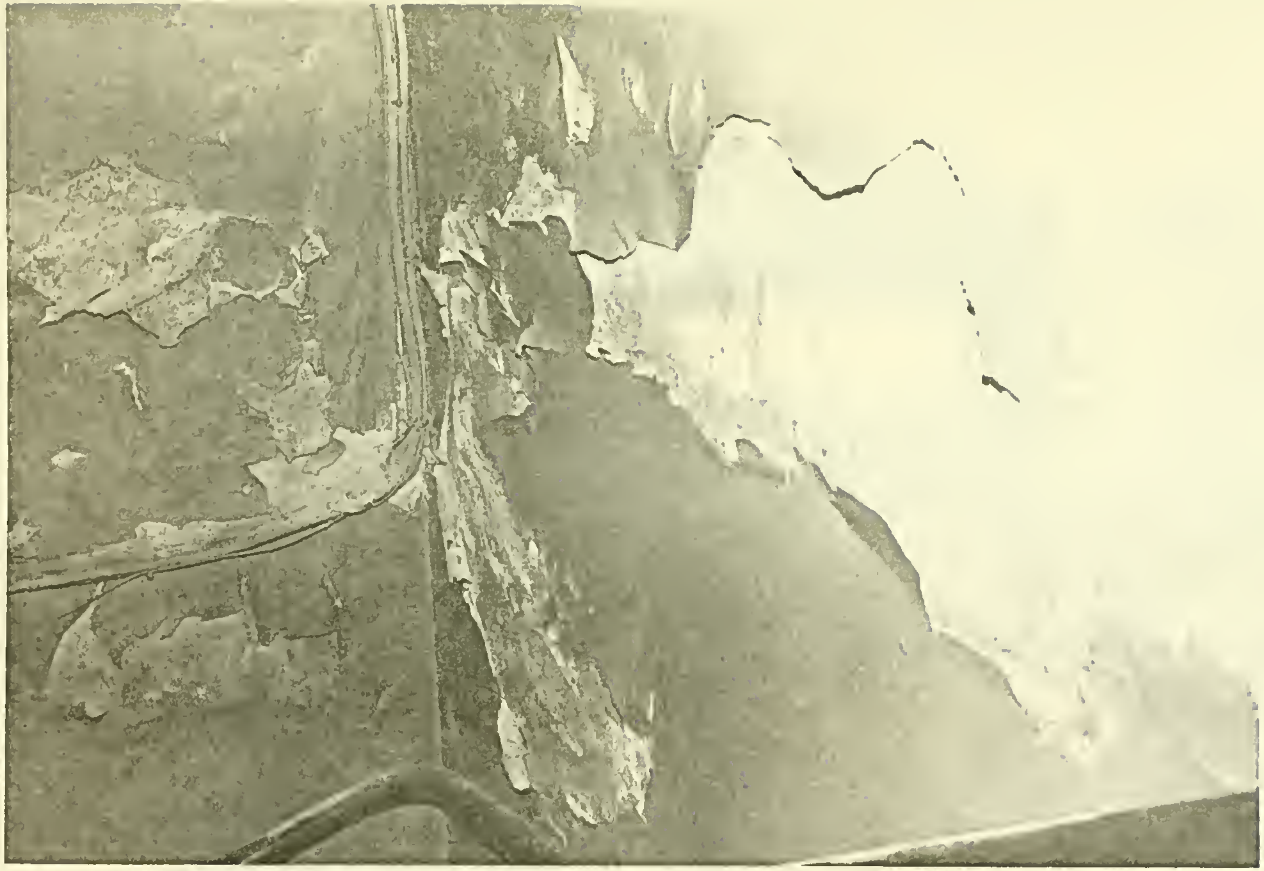


Figure 27

The Custom House and Tower
Boston, Massachusetts

Northeast stair - Between floors 17 and 18. Severe paint and plaster deterioration.

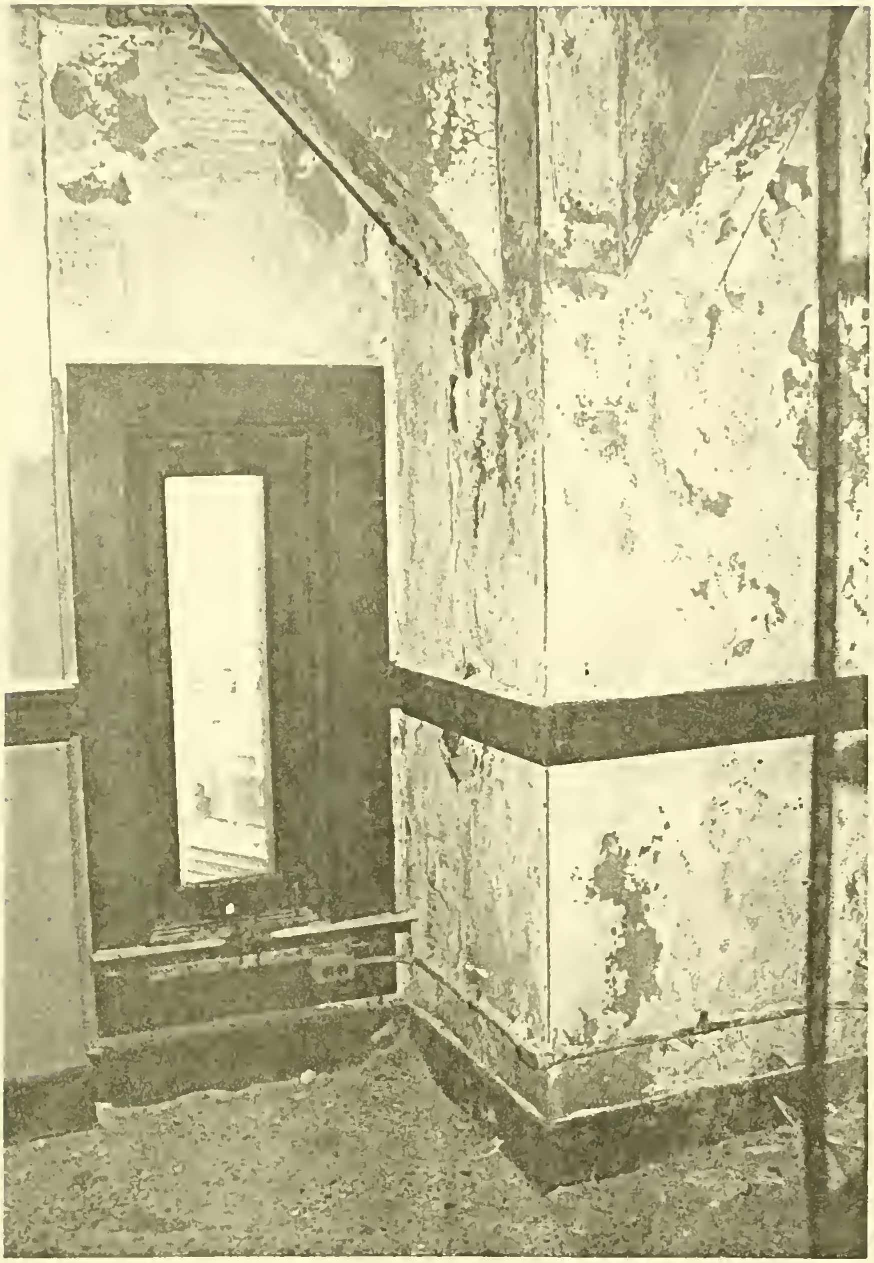


Figure 28

The Custom House and Tower
Boston, Massachusetts

Nineteenth floor - Northeast corner. Water damaged plaster and paint.

F. INFRASTRUCTURE SYSTEMS COMPONENT

F. INFRASTRUCTURE SYSTEMS COMPONENT

1. Utility Systems

(a) It is anticipated that all affected utility services can be relocated in generally the same areas as existing. Exact locations and requirements will be coordinated with the design of the connecting structure and with the various utility service agencies or companies.

(b) Estimated water demand is 80,785 GPD and estimated sewer discharge is 41,250 GPD.

(c) Preliminary engineering research indicates there is adequate water and sewer system capability in the abutting streets. The Project buildings currently use about 50% of the volumes indicated in (b) above.

(d) Waste materials generated during construction will have no value as recyclable goods.

2. Water Quality

Sewer discharge will be piped through City of Boston sewers to Deer Island for treatment. No impact on Boston Harbor water quality is expected.

3. Energy

(a) Current electrical demand is 1950 KVA and the Project will require an additional 650 KVA of

power. There have been preliminary discussions with Boston Edison to provide this service.

Steam could be provided to the Project from the Boston Thermal Energy Company. Currently, the Custom House is heated by Boston Thermal steam. The Project's demand for steam has yet to be determined.

EXHIBIT I

Development & Operating Proformas

CUSTOM HOUSE INTER-CONTINENTAL HOTEL

PROJECT SUMMARY

		TOTAL
100.00	ACQUISITION	38,734
200.00	FF&E	11,854
300.00	HARD COSTS, CONSTR.	40,259
400.00	SOFT COSTS, CONSTR.	1,527
500.00	ARCH. & ENG.	2,935
600.00	LEGAL	750
700.00	FINANCIAL	1,742
800.00	MARKETING	3,750
900.00	GENERAL & ADMIN.	3,935
1100.00	CONTINGENCY	3,641
1300.00	CONSTR. INTRST. EXP.	6,059

1400.00	PROJECT DEVELOPMENT COST	115,186
LESS:		
1700.00	BRA ADDITIONAL RENT	(1,500)
LESS:	EQUITY	
2100.00	INTERCONTINENTAL/ESLP/BEAL	(31,000)
2200.00	INVESTOR	(15,000)
2300.00	TOTAL FINANCED	67,686
2400.00	TOTAL PLUS OPERATING DEFICITS	69,298
2500.00	STABILIZED INCOME (YEAR 4)	10,298

CUSTOM HOUSE/131 STATE STREET

Project Summary Notes

100.00 Acquisition Cost includes fee interest in 131 State Street and India Street and a lease hold interest in the Custom House.
200.00 FF&E includes all furniture, fixtures and equipment for the guest rooms, common areas, function rooms, kitchens and restaurants.
300.00 Hard Costs, Const. includes base building cost, general conditions and ACM abatement.
400.00 Soft Costs, Const. includes taxes, permits, bonds, signs and traffic control.
500.00 ARCH & ENG includes all architectural and engineering studies, consultants and fees.
600.00 Legal includes all costs for closings, lease agreements, and partnership agreements.
700.00 Financial includes lenders and brokerage fees for construction and permanent financing.
800.00 Marketing includes all costs for advertising, promotions, preopening expenses and operational start up costs.
900.00 General & Admin. include development, operator and linkage fees.
1100.00 Contingency is reserves for construction overruns.
1300.00 Construction Interest Expense is the interest on the construction loan.
1400.00 Total project costs.

1700.00 BRA Additional Rent is the funds reimbursed to the Boston Redevelopment Authority for incurred costs and is paid at residual or refinancing.

2100.00 Equity pledged by Inter•Continental Hotel Corporation, Beal Properties, Inc. and the East Stream Limited Partnership.
2200.00 Investor is a third party investor.

2300.00 Total Financed is the permanent debt amount.
2400.00 Total plus Operating Deficits assumes total debt with funded operating deficits.
2500.00 Stabilized Income assumed is Year 4.

CUSTOM HOUSE INTER-CONTINENTAL HOTEL

DEVELOPMENT COST ESTIMATES

	Line Item Costs	Per Room 340	Per Sq.Ft. 299	Total Cost
=====	=============	======	=====	=====
		(000)	(000)	($000)
100.00	ACQUISITION			
0.01	131 State St	97.05	129.21	23,000
0.02	Lease Buy Out	1.27	1.69	300
0.03	Custom House BRA	53.73	45.36	5,534
0.04	Custom House GSA	96.12	81.15	9,900
		-----	-----	-----
	TOTAL	248.16	129.55	38,734
200.00	FURNITURE, FIXTURES & EQUIPMENT			
0.01	FF & E	27.88	31.70	9,479
0.02	Laundry/Kitchen	6.76	7.69	2,300
0.03	Mock Up	0.22	0.25	75
		-----	-----	-----
	TOTAL	34.64	39.39	11,854
300.00	HARD COSTS, CONSTR.			
0.01	Basic Bldg.	112.70	128.16	38,319
0.02	ACM Abatement	2.94	3.34	1,000
0.03	Tele/UPS/AV	2.76	3.14	940
		-----	-----	-----
	TOTAL	118.41	134.65	40,259
400.00	SOFT COSTS, CONSTR.			
0.01	R.E. Taxes & Pilot	2.72	3.09	924
0.02	Bldg. Permit	1.27	1.44	431
0.03	Bond	0.29	0.33	100
0.04	Signs	0.15	0.17	50
0.05	Traffic/Police	0.15	0.17	50
		-----	-----	-----
	TOTAL	4.57	5.20	1,555
500.00	ARCHITECTUAL/ENGINEERING			
0.01	Base Bldg. Services	4.41	5.02	1,500
0.02	MEP/Structural	1.32	1.51	450
0.03	Environmental Eng.	0.10	0.12	35
0.04	Surveys/Field Testing	0.22	0.25	75
0.05	Interior Design	1.32	1.51	450
0.06	Kitchen Design	0.24	0.27	80
0.07	Lighting/Graphics	0.18	0.20	60
0.08	Historic Study (Update)	0.15	0.17	50
0.09	Prof. Fees (Traffic,Zoning)	0.15	0.17	50

CUSTOM HOUSE INTER-CONTINENTAL HOTEL

DEVELOPMENT COST ESTIMATES (con't)

	Line Item Costs	Per Room 340	Per Sq.Ft. 299	Total Cost
		(000)	(000)	($000)
500.00	ARCHITECTURAL/ENGINEERING (con't)			
0.10	Geotechnical Engineering	0.24	0.27	80
0.11	Energy Code Design Study	0.09	0.10	30
0.12	Reimbursables	0.22	0.25	75
	TOTAL	348.63	9.82	2,935
600.00	LEGAL			
0.01	Development	1.47	1.67	500
0.02	Financial	0.74	0.84	250
0.03				0
	TOTAL	2.21	2.51	750
700.00	FINANCIAL			
0.01	Lenders Fees	3.22	3.66	1,093
0.02	Brokerage Fees	2.14	2.44	729
0.03	Arch. Inspection	0.15	0.17	50
0.04				0
	TOTAL	5.51	6.26	1,872
800.00	MARKETING			
0.01	Preopening	10.29	11.71	3,500
0.02	Operational Start-Up	0.74	0.84	250
	TOTAL	11.03	12.54	3,750
900.00	GENERAL & ADMIN.			
0.01	Dev. Mngmt. Fee/Proj. Mgmt. Fee	8.92	10.15	3,034
0.02	Technical Services	1.18	1.34	400
0.03	Linkage Payment (PV)	1.50	1.70	509
	TOTAL	11.60	13.19	3,943
1000.00	COSTS BEFORE CONTINGENCY	310.74	353.35	105,653
1100.00	CONTINGENCY	10.74	12.21	3,650
1200.00	SUBTOTAL	321.48	365.56	109,303
1300.00	CONSTRUCTION INTEREST EXPENSE	17.91	20.36	6,089
1400.00	PROJECT DEVELOPMENT COST	339.39	385.93	115,392

CUSTOM HOUSE Inter-Continental HOTEL

DEVELOPMENT COST ESTIMATE NOTES

Square Feet. Based on 167,000 square feet for 131 State Street and 115,000 square feet for the Custom House Tower. Includes a three story 33,000 addition for 131 State Street. Approximately 17,000 square feet will be constructed on and beneath the bisecting India Street for the main entrance, lobby and lounge area.

100.00 Acquisition Costs
100.01 Board of Trade Building Acquisition. The fee interest cost of 131 State Street is $23,000,000.
100.02 Board of Trade Building Lease Buyouts. Approximately 10,000 square feet will be under lease past December, 1991. A budget of $300,000 is allocated for moving these tenants.
100.03 Custom House BRA. This figure is a reimbursement to the BRA for costs associated with the Custom House.
100.04 Custom House GSA. The City of Boston holds a note from the GSA for the Custom House which is paid off at construction financing.

200.01 Furniture, Fixtures & Equipment. A total of $28,250 per room is assumed for FF&E less target savings of $125,000.
200.02 Laundry/Kitchen/Common Areas. A budget of $2,425,000 is allocated for common areas, kitchens, lounges and dining rooms less target savings of $125,000.
200.03 Mock Up. Budget for mock up room for sales.

300.00 Hard Construction Costs. Based on estimates submitted by local contractors.
300.01 Basic Building. The hard construction costs are estimated at approximately $128.00 per square foot.
300.02 ACM Abatement. The cost to remove or encapsulate asbestos in both buildings is estimated at $1,000,000.
300.03 Tele/UPS/AV. Budget for telephone, reservation and audio systems is $940,000.

400.00 Construction Soft Costs.
400.01 Real Estate Taxes and Pilot. Real estate taxes during construction for 131 State Street are assumed to be $462,000 per year (1991 figures). PILOT (Payment in lieu of taxes) commences 36 months from the execution of the lease. The PILOT payment is

DEVELOPMENT COST ESTIMATE NOTES (con't)

$50,000 per year for ten years, increasing $50,000 each ten years thereafter.

400.02 Building Permit. Estimated at $431,000.

400.03 Bond. Estimated construction bond.

400.04 Signs. Budget for construction signage, traffic flow, etc.

400.05 Traffic/Police. Budget for police details and traffic mitigation.

500.00 Architectural & Engineering

500.01 Base Building Services. Budget for base building is 5% of net construction hard costs. Base building also includes civil, landscape and elevator consultants.

500.02 MEP. Budget for Mechanical, electrical and plumbing and civil engineering is $450,000.

500.03 Environmental Engineering. Budgeted $35,000.

500.04 Surveys/Field Testing. Required for street construction, sidewalk repairs. Budgeted at $75,000.

500.05 Interior Design. Budgeted $450,000.

500.06 Kitchen Design. Budgeted $80,000.

500.07 Lighting/Graphics. Budgeted $60,000 for interior and exterior lights, and graphics.

500.08 Historical Study. Required by City to perform study of historical conditions, existing conditions, and future conditions.

500.09 Professional Fees (Traffic). Budgeted $50,000 for traffic studies.

500.10 Geotechnical Engineering. Budgeted $80,000.

500.11 Energy Code Design Study. Budgeted $30,000.

500.12 Reimbursables. Budgeted $75,000.

600.00 Legal

600.01 Legal. Allocated $500,000 for development legal fees including BRA negotiations on lease and lease commencement agreement, zoning issues, environmental issues, and management agreements.

600.02 Financial. Allocated $250,000 for legal services for construction and permanent financing.

700.00 Financial

700.01 Lenders Fees. Budgeted .5% of construction debt and 1% of permanent debt.

700.02 Brokerage Fees. Budgeted 1% of permanent debt.

700.03 Arch. Inspection. Allocated for lender's architectural inspections.

DEVELOPMENT COST ESTIMATE NOTES (con't)

800.00 Marketing
800.01 Preopening. Budgeted $3,750,000 for preopening expenses.

900.00 Administrative & General
900.01 Development Management/Project Management Fee. Allocated 4% of budget less acquisition/FF&E plus $750,000 for project management fee.
900.02 Technical Services. Budgeted $400,000 for technical services provided by the operator.
900.03 Linkage Payment (PV). The payment required by City Zoning rules to be used for job training and housing construction which is paid over seven years. The charge is $5.00 per square foot for every square foot over 100,000 for housing and $1.00 per square foot over 100,000 for job training. This figure represents the present value of the total payment required.

1000.00 Costs Before Contingency. Represents total development costs prior to construction contingency.

1100.00 Contingency. The contingency budget for the project is 5% of hard and soft costs.

1200.00 Subtotal. Total costs including contingency.

1300.00 Construction Interest Expense. The interest expense is assumed to be at a rate of 10.0%.

1400.00 Project Development Cost. Total development costs.

$$DCR = \frac{NOI}{DS} \qquad 1.2$$

CUSTOM HOUSE INTER-CONTINENTAL HOTEL

:131CHTM

	CAPITAL STRUCTURE	
	Uses:	
a	Redevelopment Cost	99,788
b	BRA/GSA Reimbursement	15,434
	TOTAL	115,222
	Sources:	
c	Taxable Bond Issue	67,722
d	Private Equity	46,000
e	BRA Addt. Rent	1,500
	TOTAL	115,222

[notes]	Residual Calculation	Year 11
am	Net Income	15,466
an	Cap Rate	7.00%
ao	Gross	220,950
ap	Less Sales Cost	(3,000)
aq	Less Principal	(69,343)
ar	Less Addt. Rent	(1,500)
as	Net	147,107
at	Less Capital	(31,000)
au	Net Residual	116,107

	PERMANENT DEBT STRUCTURE				
f	First Mortgage - Rate - Payment	67,722	9.75%	25	7,318

CUSTOM HOUSE INTER-CONTINENTAL HOTEL

HOTEL PROFORMA

	Summary:	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11
g	Number of Rooms	340	340	340	340	340	340	340	340	340	340	340
h	Rooms Available	124,100	124,100	124,100	124,100	124,100	124,100	124,100	124,100	124,100	124,100	124,100
i	Rooms Sold	83,200	85,600	88,800	92,100	92,100	92,100	92,100	92,100	92,100	92,100	92,100
j	Occupancy	67.00%	69.00%	72.00%	74.00%	74.00%	74.00%	74.00%	74.00%	74.00%	74.00%	74.00%
k	Average Daily Room Rate	$214.00	$237.00	$262.00	$275.00	$289.00	$303.45	$318.62	$334.55	$351.28	$368.85	$387.29
	Revenues: (000's)											
	Room Revenue	17,805	20,287	23,266	25,328	26,617	27,948	29,345	30,812	32,353	33,971	35,669
	Food	9,582	10,796	12,192	13,083	13,737	14,424	15,145	15,902	16,697	17,532	18,409
	Beverage	3,616	4,074	4,601	4,937	5,184	5,443	5,715	6,001	6,301	6,616	6,947
	Telephone	809	874	952	1,037	1,089	1,143	1,200	1,260	1,323	1,389	1,459
	Other Operated Departments	1,280	1,362	1,455	1,555	1,633	1,714	1,800	1,890	1,985	2,084	2,188
	Rentals/Other Income	270	290	312	337	354	372	390	410	430	452	474
	Total Gross Revenue	33,361	37,682	42,778	46,276	48,613	51,044	53,596	56,276	59,089	62,044	65,146
	Less: Departmental Cost											
	Room Revenue	5,102	5,454	5,862	6,302	6,617	6,948	7,295	7,660	8,043	8,445	8,867
	Food & Beverage	11,882	12,986	14,230	15,137	15,893	16,688	17,523	18,399	19,319	20,284	21,299
	Telephone	540	579	625	674	708	743	780	819	860	903	948
	Other Operated Departments	804	846	892	940	986	1,036	1,088	1,142	1,199	1,259	1,322
	Total Departmental Expenses	18,327	19,865	21,608	23,052	24,204	25,414	26,685	28,019	29,420	30,891	32,436
	Gross Operating Income	15,034	17,817	21,170	23,225	24,409	25,629	26,911	28,256	29,669	31,152	32,710
	Undistributed Operating Expenses											
	Adminstrative & General	2,957	3,113	3,280	3,457	3,630	3,811	4,002	4,202	4,412	4,632	4,864
	Management Fee	1,002	1,131	1,283	1,388	1,458	2,042	2,144	2,251	2,364	2,482	2,606
	Marketing	2,119	2,234	2,358	2,489	2,613	2,744	2,881	3,025	3,177	3,335	3,502
	Energy Costs	998	1,058	1,125	1,196	1,256	1,319	1,385	1,454	1,526	1,603	1,683
	Property Operations and Maintenance	1,605	1,788	1,990	2,105	2,210	2,321	2,437	2,559	2,687	2,821	2,962
	Total Undistributed Operating	8,681	9,324	10,036	10,635	11,167	12,236	12,848	13,490	14,165	14,873	15,617
	Gross Operating Profit	6,353	8,494	11,134	12,590	13,242	13,393	14,063	14,766	15,504	16,279	17,093
	Fixed Charges and Other Expenses											
	Property Taxes	360	443	530	620	715	815	835	856	877	899	922
	PILOT Payments	50	50	50	50	50	50	50	50	50	50	400
	Insurance	148	156	164	172	180	189	199	209	219	230	242
	Replacement of Fixed Assets	334	754	1,283	1,388	1,458	1,531	1,607	1,687	1,772	1,860	0
	Ground Rent	61	61	61	61	61	61	61	61	61	61	64
	Total Fixed Charges	953	1,463	2,087	2,291	2,464	2,646	2,752	2,863	2,979	3,101	1,627
f	Net Cash Available for Debt	5,400	7,031	9,046	10,298	10,778	10,748	11,311	11,903	12,525	13,179	15,466
												217,950
	Debt Service	(6,603)	(7,448)	(7,493)	(7,493)	(7,493)	(7,493)	(7,493)	(7,493)	(7,493)	(7,493)	(69,343)
	Operating Deficit Reserves	1,203	418									(1,500)
i	Less: IHG Incentive Management Fee	0	0	259	468	547	542	636	735	839	948	
j	Net Cash Available for Distribution	0	0	1,294	2,338	2,737	2,712	3,182	3,675	4,193	4,738	147,107
	DCR	-	-	1.21	1.37	1.44	1.43	1.51	1.59	1.67	1.76	

Debt (w/ operating deficits drawn down)	68,925	69,343	69,343	69,343
Debt Service	7,448	7,493	7,493	7,493

CUSTOM HOUSE/131 STATE STREET

Operating Proforma Notes

a. Redevelopment Cost - total costs less BRA obligations.
b. BRA - costs include reimbursement of BRA's costs for interest carry.
c. Taxable Bond Issue - proceeds from sale of taxable bonds.
d. Private Equity - amount of equity contributed by the partners.
e. BRA Additional Rent - a portion of the BRA's costs are reclassified as rent and paid at refinancing or sale.
f. First Mortgage - amount, rate, term and payment of debt. Does not include operating deficits.

Revenue:
g. Number of Rooms - total room count is 340; 104 in the Custom House and 236 in The Board of Trade Building.
h. Rooms Available - total rooms times days in the year.
i. Rooms Sold - rooms sold based on market penetration. See Berins report.
j. Occupancy - occupancy rate per year.
k. Average Daily Room Rate - average rate including discounting in Years's 1 and 2.
l. Room Revenue - average daily room rate times rooms sold.
m. Food - total food income including room service, restaurants, banquet and catering functions.
n. Beverage - total beverage income including room service, restaurants, lounges, banquet and function rooms.
o. Telephone - total telephone income estimated at $8.00 per occupied room.
p. Other Operating Departments - includes fees from valet parking for guests and functions and is estimated at $12.00 per occupied room.
q. Rentals/Other Income - includes in-room movies, fax service, cash discounts, concessions, commissions and interest income. Used $2.60 per occupied room night.

Departmental Cost:
r. Room Revenue - includes labor costs, supplies, etc.
s. Food & Beverage - representative year of 84%.
t. Telephone - assumed 65% of sales.
u. Other Operating Departments - assumed 60.4% of gross income.

Undistributed Operating Expenses:
v. Administrative & General - includes payroll, clerical, accounting, insurance, commissions, legal fees, and miscellaneous expense.
w. Management Fee - Operator has agreed to a 3% fee for the first five years increasing to 4% thereafter.
x. Marketing - based on comparable luxury hotels.

y. Energy Costs - annual expenditures for electricity, fuel, water, waste removal and operating supplies.
z. Property Operations and Maintenance - based on comparable luxury hotels and includes general maintenance and repair.

Fixed Charges and Other Expenses
aa. Property Taxes - property taxes for 131 State Street are assumed to be $1,200.00 per room in 1990.
ab. PILOT- (payment in lieu of taxes) is $50,000 per year for ten years.
ac. Insurance - based on operator's world wide plan.
ad. Replacement of Fixed Assets - commencing at 1% of total sales in the first year increasing to 3% thereafter. Excluded from 11th year's figures for sale purposes.
ae. Ground Rent - rent paid to the City for Custom House. Calculated at $.50 per square foot (based on 122,000 square feet) for ten years and increases annually by CPI thereafter.

af. Net Cash Available for Debt - Net cash flow used for debt calculation.

ag. Debt Service - Debt payment. Assumed 25 year amortization schedule.
ah. Reserves - operating reserves which are funded from permanent debt.
ai. IHG Incentive Management Fee - 20% of available cash flow after debt paid to operator.
aj. Net Cash Available for Distribution- cash available to distribute to equity partners.
ak. Debt with Operating Deficits drawn down - assumes operating deficits are drawn down from first mortgage.
al. Debt Service - new debt service based on increased loan amount from operating deficits.

Residual Calculation
am. Net Income - assumes 11th years income for sale projection.
an. Cap Rate - assumes luxury hotel market cap rate of 7%.
ao. Gross - net income divided by cap rate.
ap. Less Sales Cost - assumes $3,000,000 sales costs including brokerage fees, legal fees and miscellaneous expense.
aq. Less Principal - principal repayment of first mortgage.
ar. Less Additional Rent - Repayment to City of balance of initial reimbursable costs.
as. Net - Net proceeds
at. Less Capital - return of original partners capital.
au. Net Residual - net profit.

EXHIBIT II

Names & Addresses

EXHIBIT II

Names and Addresses

The ownership entity is Beal Properties CH Limited Partnership which is made up of Beal Properties Inc., Inter-Continental Hotels Group, and the East Stream Limited Partnership.

Beal Properties CH Limited Partnership
c/o The Beal Companies
177 Milk Street
Boston, MA 02109

Beal Properties, Inc.
Bruce A. Beal
Robert L. Beal
c/o The Beal Companies
177 Milk Street
Boston, MA 02109

Inter-Continental Hotels Group
J. Williams Bagwill, III
Vice President
1120 Avenue of the Americas
New York, NY 10036

East Stream Limited Partnership:

Takata Corporation
No. 25 Mori Building
4-30 Roppongi 1-Chome, Minato-Ku
Tokyo, 106 Japan

The Seiyo Corporation
Sunshine 60 Building 1-1, 3-Chome
Higashi-Ikebukuro, Toshima-Ku
Tokyo, 170 Japan

BFK Realty Co., Ltd.
4-14, Nishi-Shinbashi 1-Chome
Minato-Ku
Tokyo, 105 Japan

East Stream Limited Partnership (cont.):

Seiwa Kogyo Company, Ltd.
1-23, Shibadaimon 1-Chome
Minto-Ku, Tokyo 105 Japan

Nippon Landic Co., Ltd.
3-4 Shibadaimon 1-Chome
Minato-ku, Tokyo 105 Japan

MBK - Hampshire Realty, Inc.
c/o Mitsui & Co., Ltd.
201 Ohtemachi, 1-Chome
Chiyoda-Ku
Tokyo, 100 Japan

Mitsui & Co., (U.S.A.), Inc.
200 Park Avenue
New York, NY 10166-0130

Shimizu Equities, (USA), Incorporated.
650 Madison Avenue, 11th Floor
New York, NY 10022

EXHIBIT III

List of Abutters

EXHIBIT III

ABUTTING PROPERTY TO THE
CUSTOM HOUSE TOWER AND
131 STATE STREET

Address	Owner
111, 113 State Street	David Yarosh et al tr.
112, 116 State Street	William J. Panek, tr.
126 State Street	Sally A. Starr
144, 148 State Street	N.R. Miller Prop. Ltd.
150, 152 State Street	NATRAC Equities Co.
156, 158 State Street	Insurance Library Assn. Condo Trust
160, 170 State Street	160 State Assoc.
175, 177 State Street	McKinley Squ. Condo Assn.
200 State Street	Market Place Center L.P.
5, 7 Broad Street	Sally A. Starr
9 Broad Street	Sally A. Starr
15, 19 Broad Street	Sally A. Starr
33 Broad Street	Sally A. Starr
36, 40 Broad Street	Boston 40 Realty Co., Inc.
150 Milk Street	Jenney Bldg. Assoc. L.P.S.

EXHIBIT IV

Public Meeting Log

EXHIBIT IV

Custom House/Board Of Trade Building
Meeting Log *

Boston Civic Design Committee
January 15, 1991 with design review committee
January 29, 1991 with design review committee
February 5, 1991 with full commission
March 26, 1991 with design reveiw committee
April 2, 1991 with design reveiw committee

Boston Fire Department
December 7, 1990 with Captains Quinn, White, and Laing

Boston Landmarks Commission
September 19, 1990 with staff at BRA
October 16, 1990 with design review committee
November 6, 1990 with staff at CBT
November 14, 1990 with staff at CBT
December 11, 1990 with staff at BRA
December 18, 1990 with full Board
January 18, 1991 with staff at BRA
January 22, 1991 with full Board
February 11, 1991 with design review committee
February 15, 1991 with design review committee
March 12, 1991 with full Board
March 15, 1991 with staff

Boston Preservation Alliance
November 16, 1990 with staff
December 14, 1990 with staff
January 16, 1991 with Council Members
January 23, 1991 with staff

BRA
August 21, 1990
August 23, 1990
September 26, 1990
October 16, 1990
November 1, 1990
January 11, 1990
January 24, 1991
January 29, 1991
February 5, 1991
February 22, 1991
March 12, 1991
March 21, 1991
March 25, 1991
March 27, 1991
April 23, 1991
May 6, 1991
May 7, 1991
May 9, 1991
May 10, 1991
May 15, 1991
May 21, 1991

Custom House/Board Of Trade Building
Meeting Log (con't)

Boston Industrial Development Finance Authority
March 21, 1991
March 28, 1991

Boston Transportation Department
December 4, 1990 with BRA
December 10, 1990 with BRA
December 20, 1990 with BRA, BLC
January 9, 1991 with BRA
February 11, 1991 with BRA

Boston Zoning Board
March 8, 1991

MBTA
August 8, 1990 with BRA
August 15, 1990 with BRA
December 27, 1991 MEPA Consultation
April 9, 1991
April 24, 1991

MEPA
October 30, 1990 with BRA
November 21, 1990 Consultation with BRA, BLC, MHC, BTD

Massachusetts Historical Commission
November 20, 1990 at CBT
January 24, 1991 with BLC staff
February 8, 1991
March 7, 1991
April 2, 1991
May 15, 1991

Public Improvement Commission
February 14, 1991

*note: frequent meetings were held with more than one agency and are listed as such.

EXHIBIT V

Space Allocation

EXHIBIT V

1. PUBLIC SPACES

Custom House and Clock Tower

	Square Footage
a) Counting Room Bar - Incorporating the historic counting room and an adjacent room. Elegant bar with 6 seats plus 50 seats at tables.	1,400 s.f (56 seats)
b) Rotunda Raw Seafood Bar and Restaurant at basement level serving the traditional "Oyster Bar" specialties including limited hot entrees. Seating for approximately 36 in Rotunda space including 12 at the Bar itself. Also, seating for 80 in two-story space at tables.	1,000 s.f. (48 seats)
This main restaurant area will be a unique two-story space with a gracious atmosphere.	1,800 s.f. (80 seats)
c) Wine Bar - also at Basement level in the old vaults. This facilities will serve as the wine cellar for the hotel. Seating for approximately 12, which will also serve as the holding area for the restaurant.	500 s.f. (12 seats)

131 State Street

a) All purpose restaurant with seating for 90 at tables.	2,000 s.f. (90 seats)

b)	Bar Area - Bar seating for 8 at the Bar with additional seating for 10 in a portion of the restaurant.	300 s.f. (18 seats)

2. BANQUET/MEETING FACILITIES

Custom House

o	Junior Ballroom "A" (2nd Floor)	2,300 s.f.
o	Junior Ballroom "B" (3rd Floor)	2,300 s.f.
o	Meeting Room	800 s.f.
o	Meeting Room	1,000 s.f.
o	Tower Function Room (Observation deck)	600 s.f.

Addition

o	Main Ballroom (1st Basement level)	3,200 s.f.

Board of Trade:

Second Floor

o	Function Room "A"	1,450 s.f.
o	Meeting Room "B"	500 s.f.
o	Meeting Room "C"	720 s.f.
o	Meeting Room "D"	610 s.f.
o	Board Room "E"	400 s.f.
o	Function Room "F"	600 s.f.

Third Floor

o	Function Room "F"	400 s.f.
o	Meeting Room "G"	600 s.f.
o	Board Room "H"	300 s.f.

o	Meeting Suite "J"	700 s.f.
o	Meeting Suite "K"	750 s.f.
o	Meeting Suite "L"	450 s.f.
o	Meeting Suite "M"	750 s.f.

Grand Total BANQUET/MEETING Space	18,430 s.f.

3.	BUSINESS CENTER	1,000 s.f.
4.	RETAIL/MUSEUM SPACE	2,000 s.f.

5. HEALTH CLUB

Exercise room	2,000 s.f.

6. PARKING

Valet in adjacent parking garages.

7. BACK OF HOUSE PROGRAM REQUIREMENTS

As the schematic plans are not yet finalized, programmatic areas will be listed until the actual areas are more accurately defined.

Kitchen Area

a)	Main Kitchen (including daily storage)	4,000 s.f.
b)	Finishing Kitchens and Pantries	3,200 s.f.
c)	Concierge kitchen	500 s.f.
d)	Room Service Area	800 s.f.

Laundry

a)	Laundry (with small valet area)	2,400 s.f.
b)	Housekeeping	1,100 s.f.
c)	Uniform Issue	400 s.f.

Employee Facilities

a)	Lockers/Changing Rooms (including toilets and showers)	1,800 s.f.
b)	Employee Cafeteria (including kitchen)	900 s.f.
c)	Personnel Office	500 s.f.

Engineering

a)	Main Boiler Room and auxiliary fan rooms	(as required)
b)	Engineer's Office Suite	500 s.f.
c)	Workshops	1,200 s.f.
d)	Storage (parts, etc.)	500 s.f.

Loading Dock

a)	Dock, Receiving and Security - as available	(optimum 600 s.f.)
b)	Materials Management	700 s.f.
c)	Garbage/Trash	(to be determined)

Storage

a)	Bulk Stores	900 s.f.
b)	Kitchen Stores (refrigerated)	500 s.f.
c)	Banquet Storage	300 s.f.

Offices

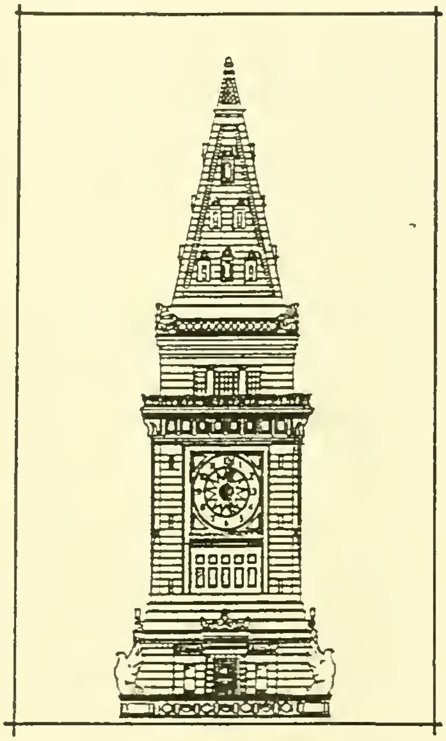
a)	Back Office	600 s.f.
b)	Administration	1,800 s.f.
c)	Accounting	900 s.f.
d)	Computer Room and Programmer's Office	350 s.f.

EXHIBIT VI

Connector Options

CUSTOM HOUSE / 131 STATE STREET HOTEL

BOSTON



CONNECTOR

DESIGN ALTERNATIVES REPORT

THE BEAL COMPANIES

INTER-CONTINENTAL HOTELS

Architect: CBT Childs Bertman Tseckares & Casendino Inc.

MAY 1, 1991

CUSTOM HOUSE/131 STATE STREET HOTEL

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INTRODUCTION

This report describes the alternatives considered by the Beal Companies and InterContinental Hotels to connect the Custom House and the Board of Trade Building (131 State Street) and to create a suitable lobby space for the new hotel.

The considerations which affect the determination of the most appropriate solution include the operational needs of the hotel, transportation needs (vehicular and pedestrian circulation), historic preservation considerations including degree of physical alterations to historic buildings and reversibility, and urban design considerations.

Below Grade

1.0

1.0 - The connection of the Custom House and Board of Trade Building is made through a below-grade structure, allowing the existing street configuration to remain unchanged.

Below Grade Connection

1.1

Pros

1. Does not create any new structures at street level.
2. India Street remains open.
3. Existing historic building facades remain untouched.

Cons

1. Infeasible for engineering/ structural reasons.
    a) Height and width of openings into Custom House and Board of Trade Building basements are limited.
    b) Existing Custom House foundations do not allow construction of pits for high-speed elevators.
    c) Existing slab under Board of Trade Building makes below-grade entrance problematic (cost, structure).
2. Decreases room count by 20-30 rooms because function rooms, and back of house facilities (kitchen, staff lockers, admin.) have to occupy guest room areas.

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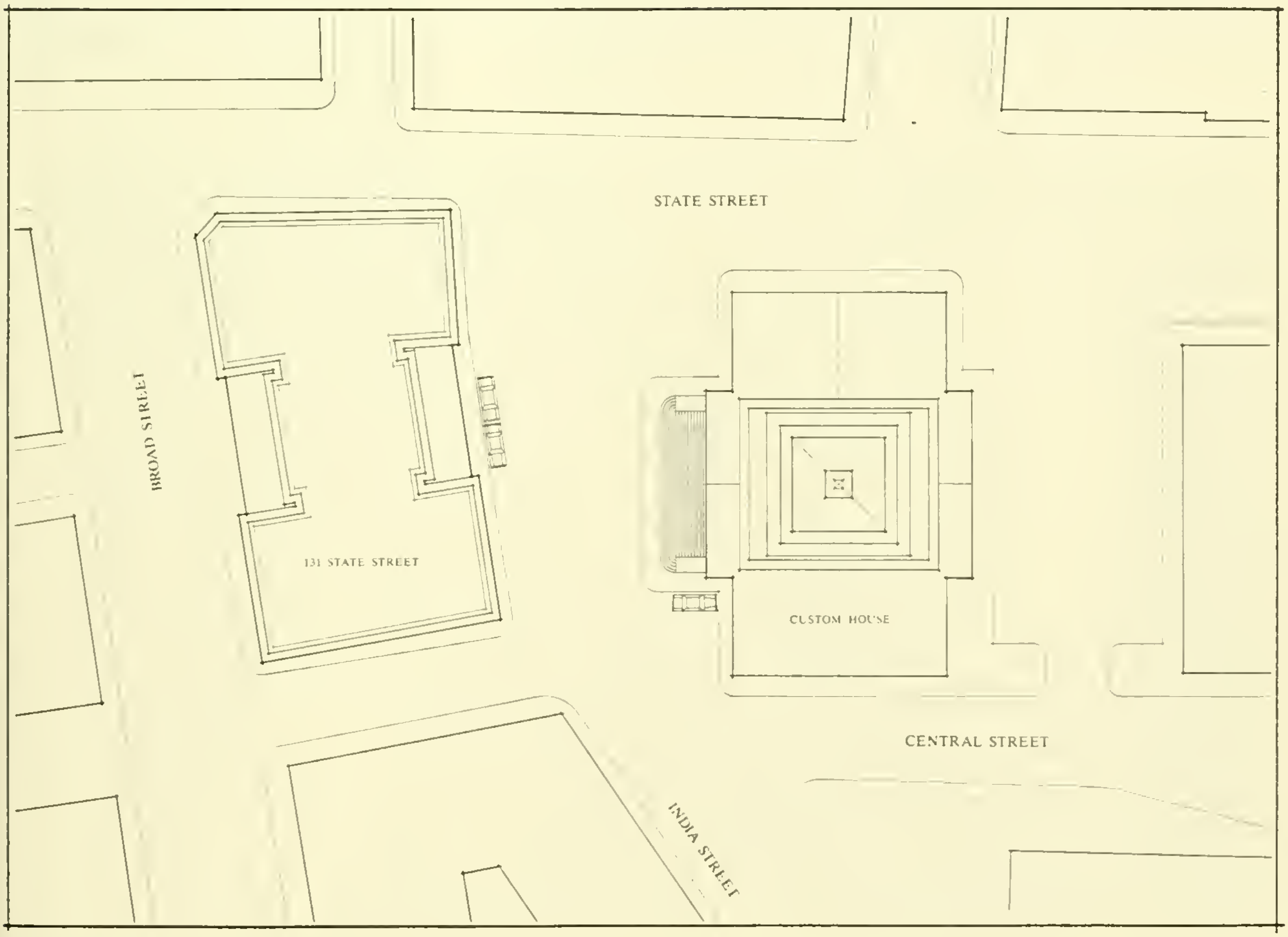
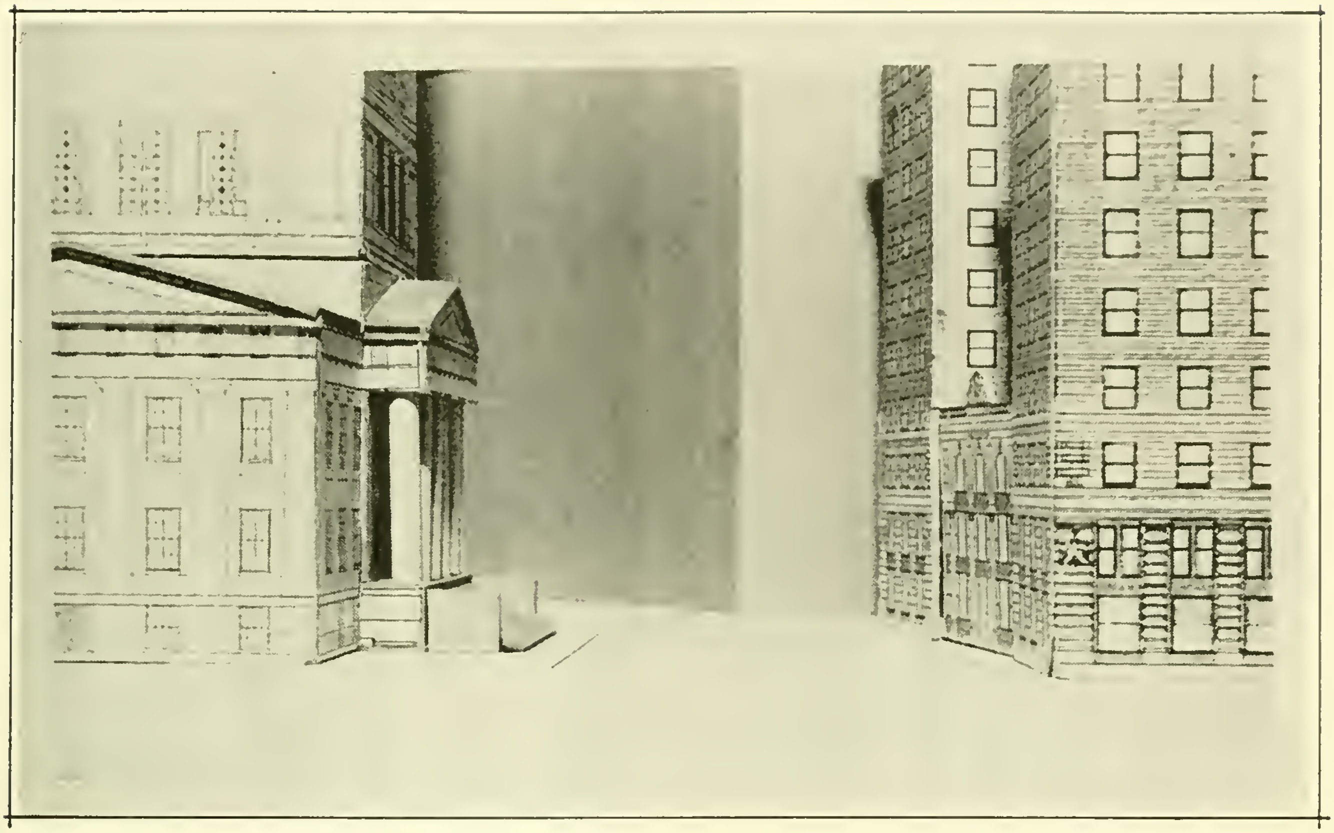


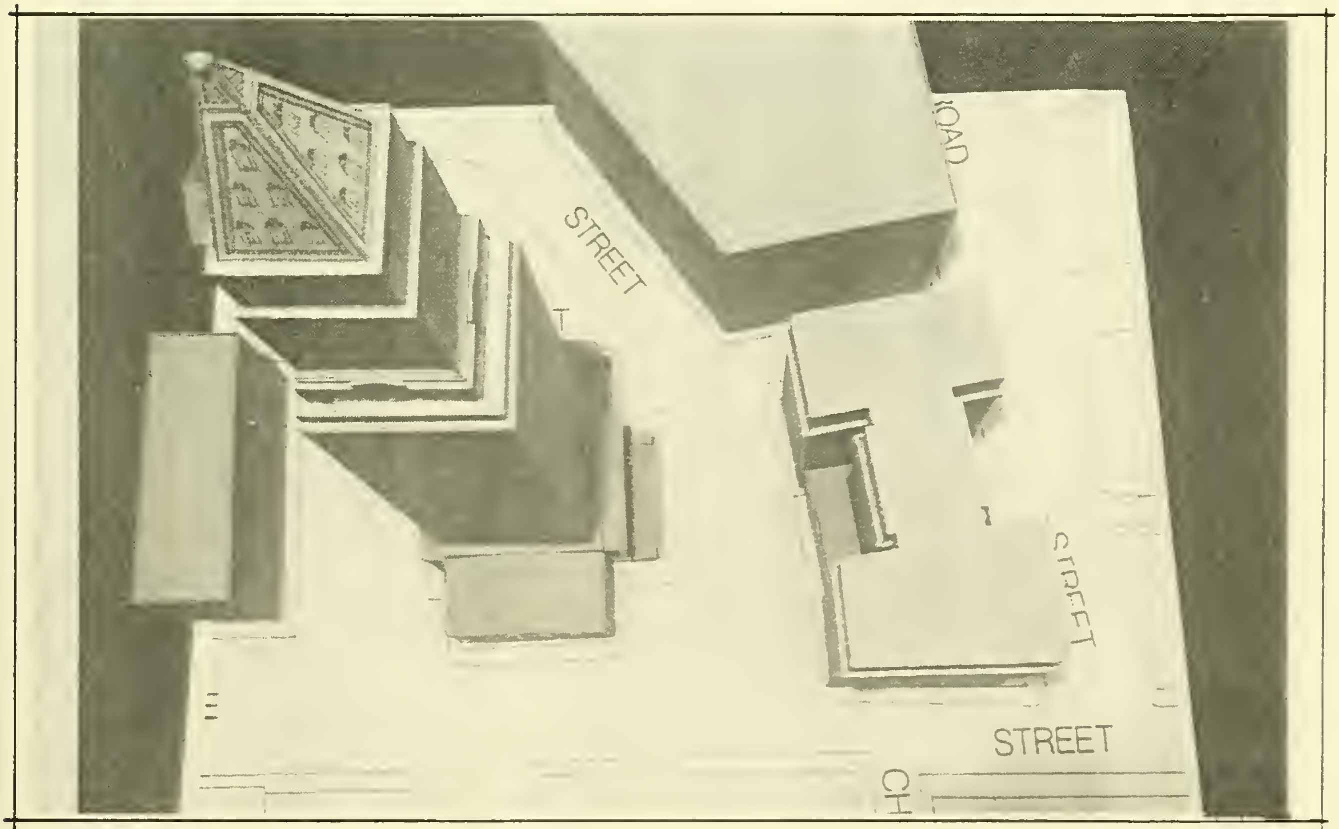
Site Plan

Cons

3. No space in either the Custom House or Board of Trade Building is suitable for a hotel lobby in both size and configuration.
4. Requires circuitous route for hotel guests which is inappropriate for a luxury hotel.
5. Difficult to accommodate loading dock.



Eye Level View From State Street



Aerial View From State Street

Bridge Connection 2.0

2.0 - A bridge at floor 2 or 10 would be the only connection between the Custom House and the Board of Trade Building.

Bridge at 10th Floor

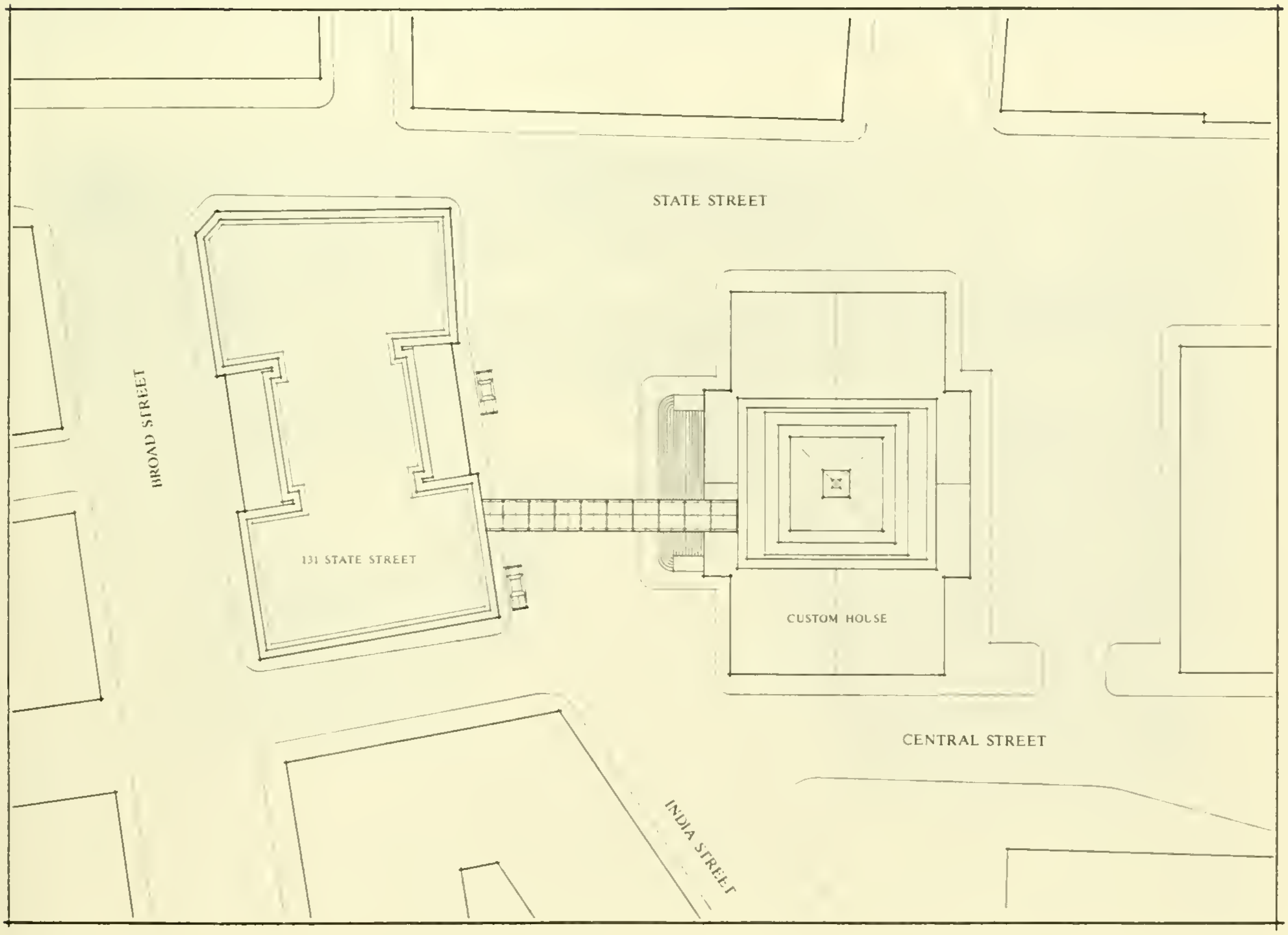
2.1

Pros

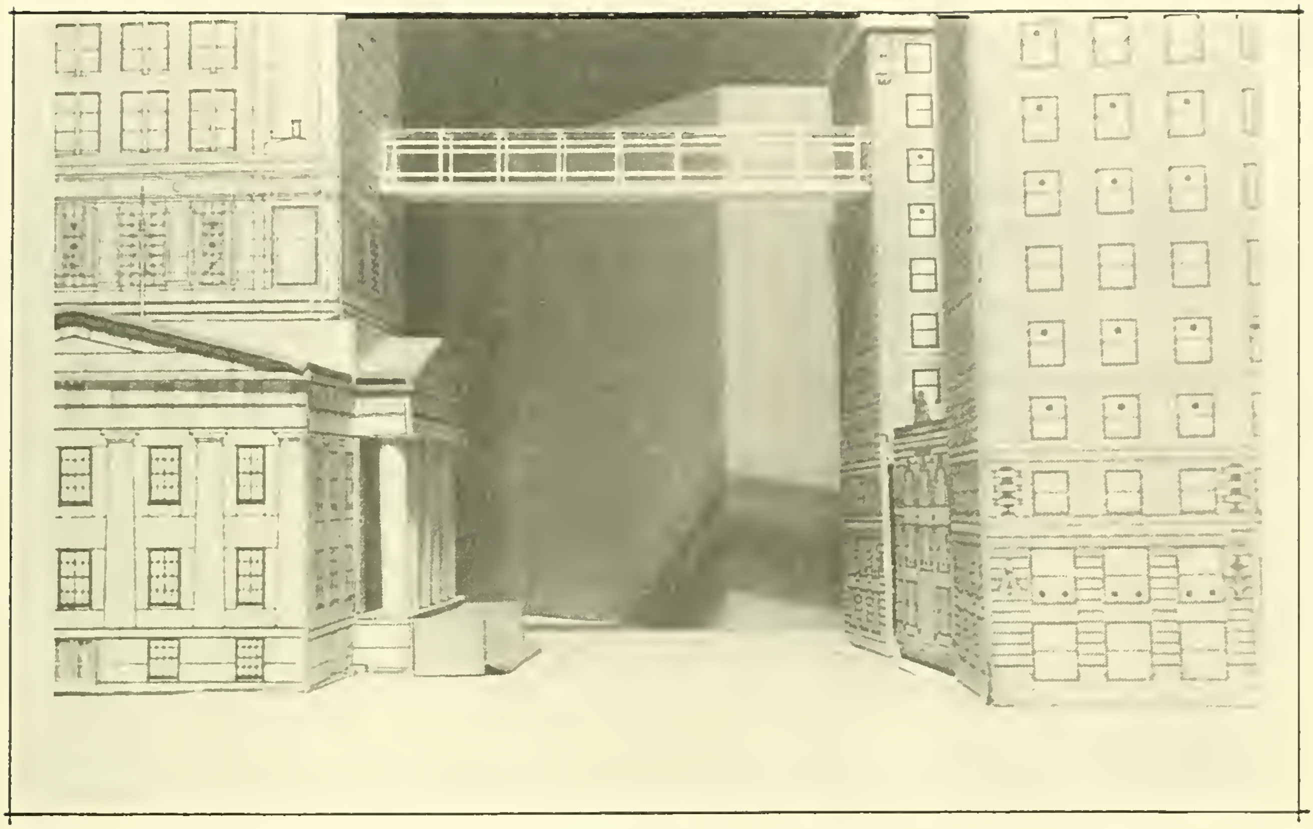
1. Leaves India Street fully open.
2. Would not impact lower facades of either building.
3. Leaves existing historic Custom House stairs in place.
4. Reversible in function and appearance.

Cons

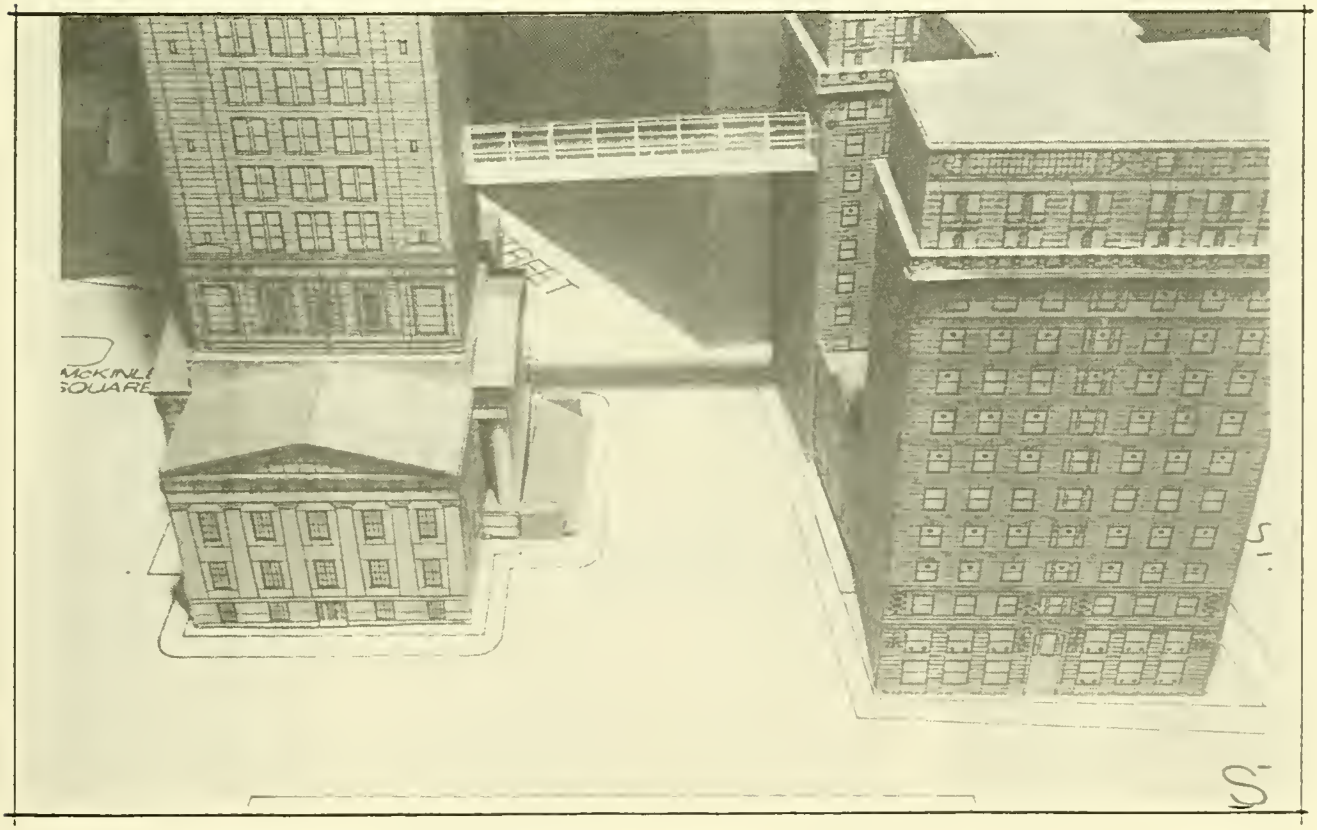
1. Creates unacceptable circulation patterns for hotel guests by requiring hotel guests to travel up and down 10 floors to move from one building to the other.
2. Does not create additional column-free space required for hotel lobby by hotel operator.
3. Bridge at this location impairs upper facades of both Custom House and Board of Trade buildings.
4. Excessive clear span for bridge is difficult/expensive to engineer and construct.
5. Difficult to accommodate loading dock.



Site Plan



Eye Level View From State Street



Aerial View From State Street

Bridge at 2nd Floor

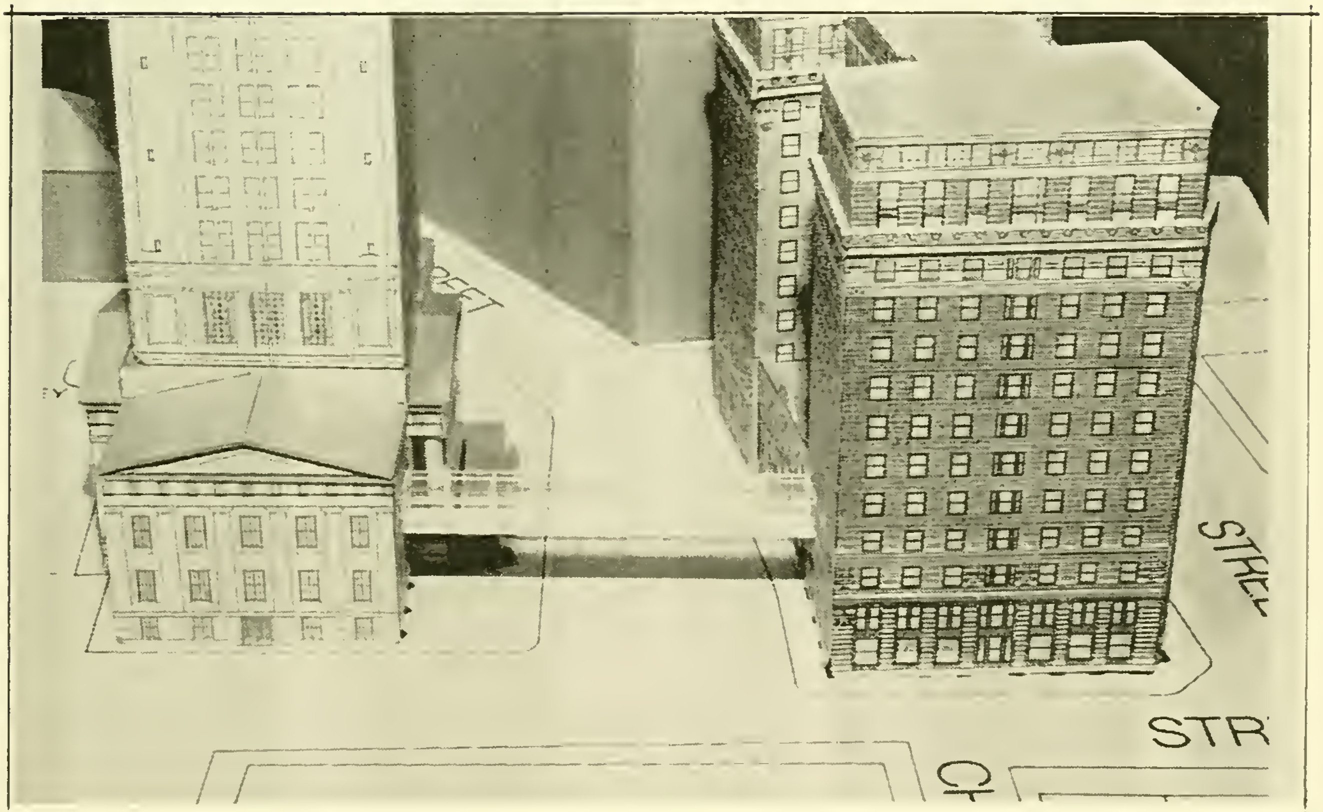
2.2

Pros

1. Leaves India Street fully open.
2. Leaves existing historic Custom House stairs in place.
3. Reversible in function and appearance.

Cons

1. Creates unacceptable circulation patterns for hotel guests by requiring hotel guests to travel up and down floors to move from one building to the other.
2. Does not create additional column-free space required for hotel lobby by hotel operator.
3. Excessive clear span for bridge is difficult/expensive to engineer and construct.
4. Difficult to accommodate loading dock.
5. Bridge impairs view of lower facades of both the Custom House and Board of Trade Building.



Aerial View From State Street

Raised Plaza – 3.0

Custom House Attachment

3.0 - The connection between the Custom House and the Board of Trade Building is made by constructing a new structure at grade on India Street, necessitating its closure. The new structure abuts the Custom House at the location of the existing entrance stairs, which are relocated to the east side. The hotel lobby and registration desk is located in the new structure, and is accessed on State Street. A public space is designed on the roof of the structure accessed by stairs. The connection to the Board of Trade Building is made with a narrow glass enclosure. A portion of the new structure is 15 feet high to provide sufficient head room in the hotel lobby.

Raised Plaza at Grade

3.1

Pros

1. Little disruption of view of the Custom House facade from any angle.

Cons

1. Requires closure of India Street which is unacceptable for historic preservation and traffic circulation reasons.
2. Attachment of new structure to Custom House detracts from its historic urban setting and its integrity as a free-standing structure. The Custom House is considered a substantially more important historic building than the Board of Trade Building.
3. Requires removal of existing historic stairs from the Custom House.
4. Substantial physical attachment to the Custom House is irreversible in both function and appearance.
5. Portions of hotel lobby space have insufficient head room.

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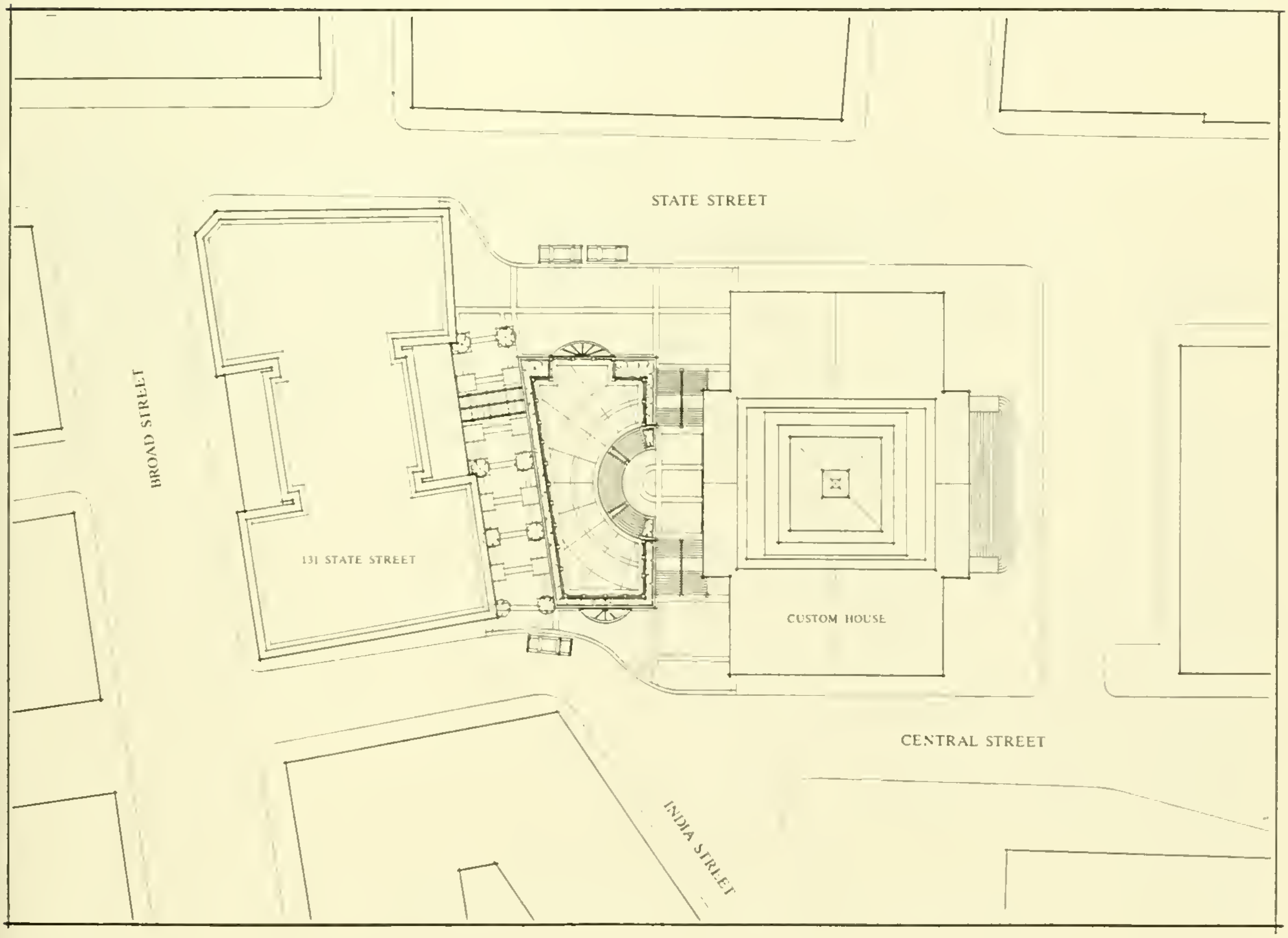
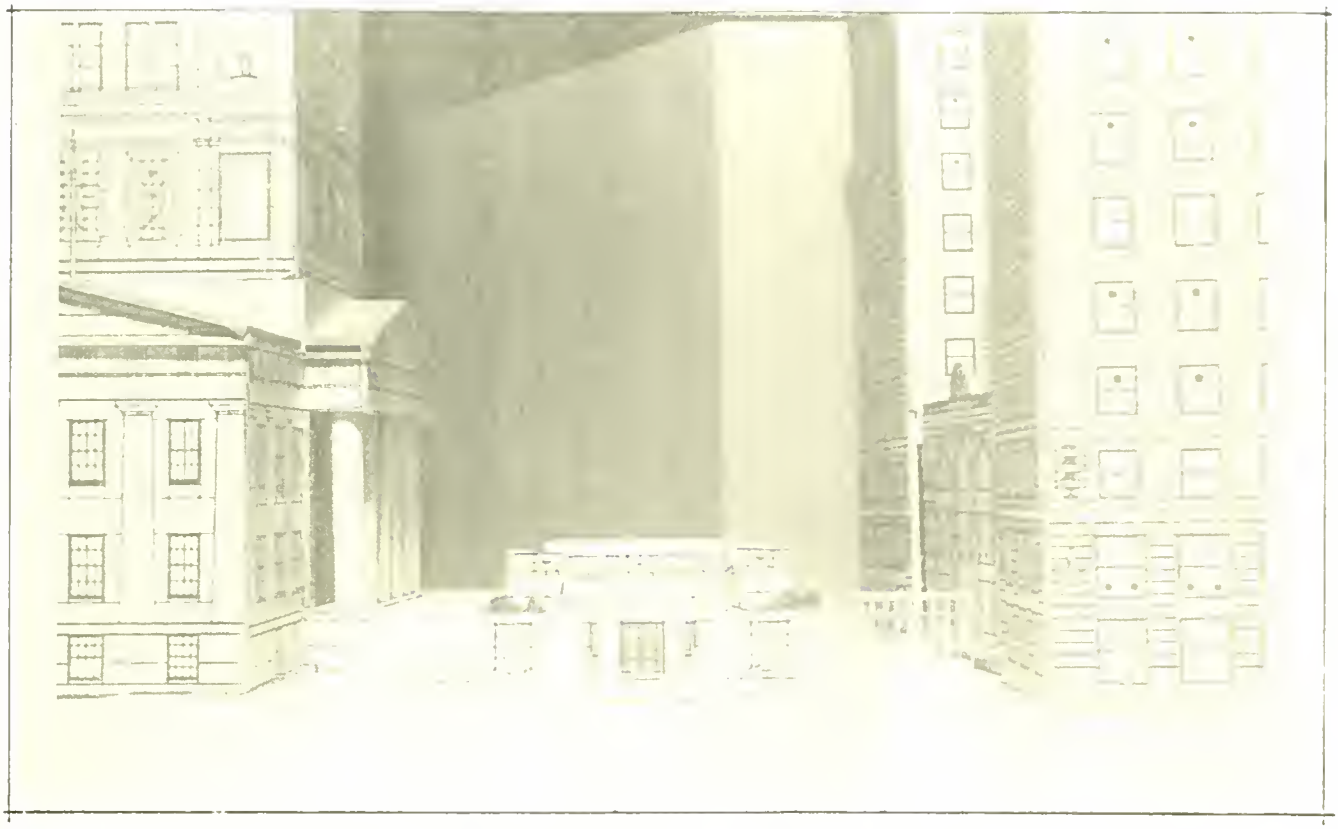


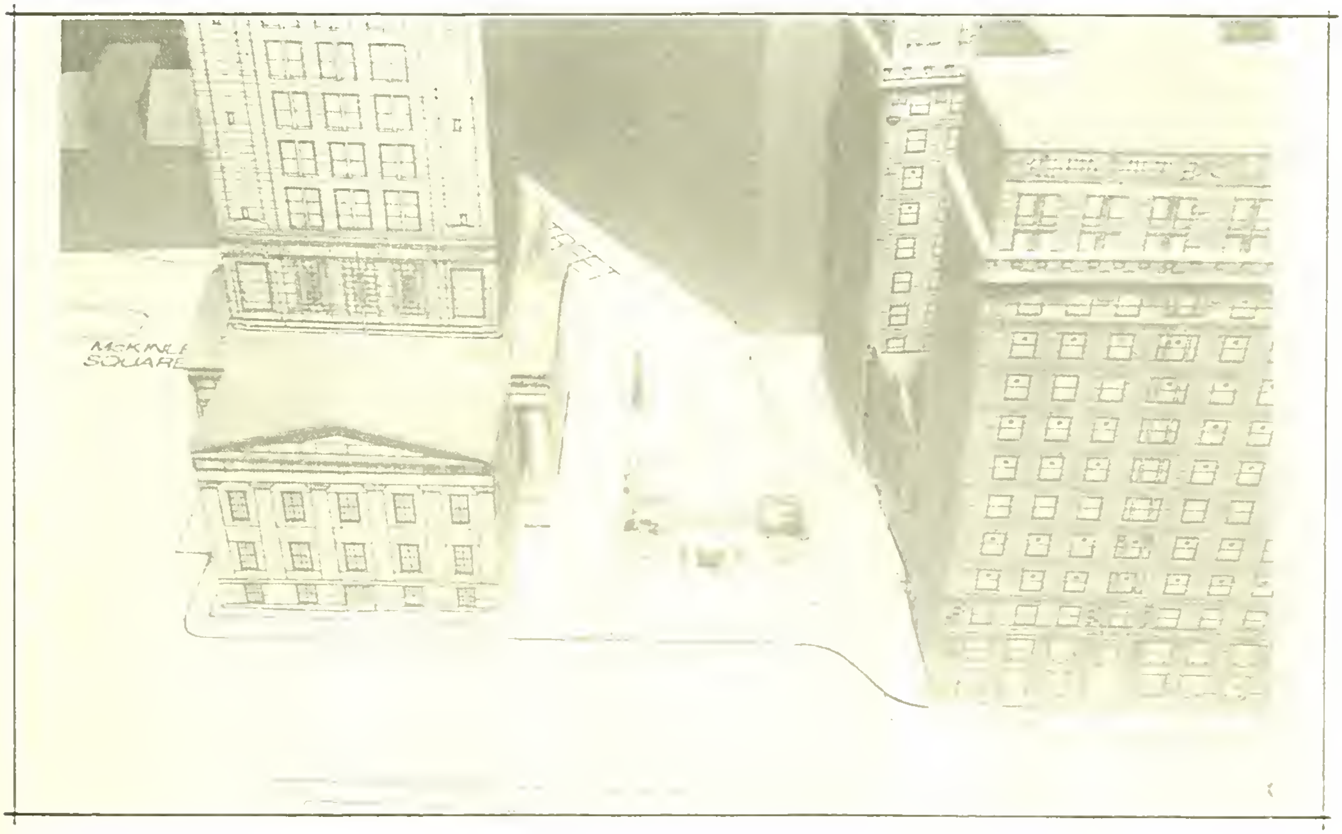
Site Plan

Cons

6. Hotel drop-off occurs on State Street, which is the busiest street the project is on.
7. Through pedestrian connections between State and Central Streets are compromised by forcing pedestrians to climb stairs or go through hotel lobby.
8. Difficult to accommodate loading dock.



Eye Level View From State Street



Aerial View From State Street

Raised Plaza with Bridge

3.2

3.2 - The plaza scheme (3.1) is altered so that a narrow vehicular road is left open between the connector structure and the Board of Trade Building. A second story bridge is built from the connector to the Board of Trade Building.

Pros

1. Leaves a portion of India Street open for vehicular traffic.
2. Little disruption of view of the Custom House facade from any angle

Cons

1. Attachment of new structure to the Custom House detracts from its historic urban setting and its integrity as a free-standing structure. The Custom House is considered a substantially more important historic building than the Board of Trade Building.
2. Requires removal of existing historic stairs from the Custom House.
3. Substantial physical attachment to the Custom House is irreversible in both function and appearance.

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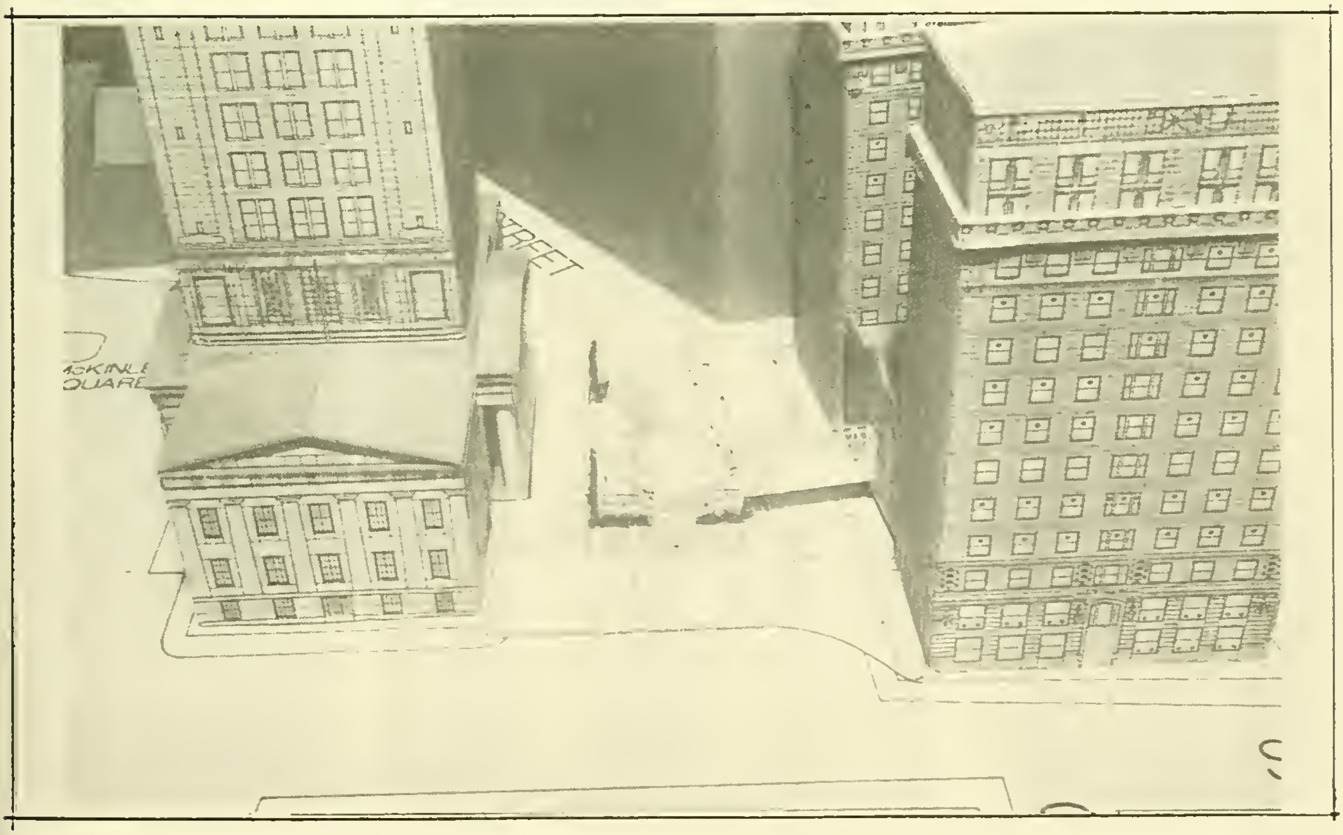


Aerial View From State Street

Cons

4. Portions of hotel lobby space have insufficient head room.
5. Hotel drop-off occurs on State Street, which is the busiest street the project is on.
6. Circuitous routes from registration desk to guest rooms are least desirable to hotel operator.
7. Difficult to accommodate loading dock.

Independent Building 4.0

4.0 - The connector structure is a new, separate building constructed between the Board of Trade Building and the Custom House on India Street. The building would have a second story bridge connection into both the Custom House and the Board of Trade Building.

Independent Building with Bridge into Custom House Portico

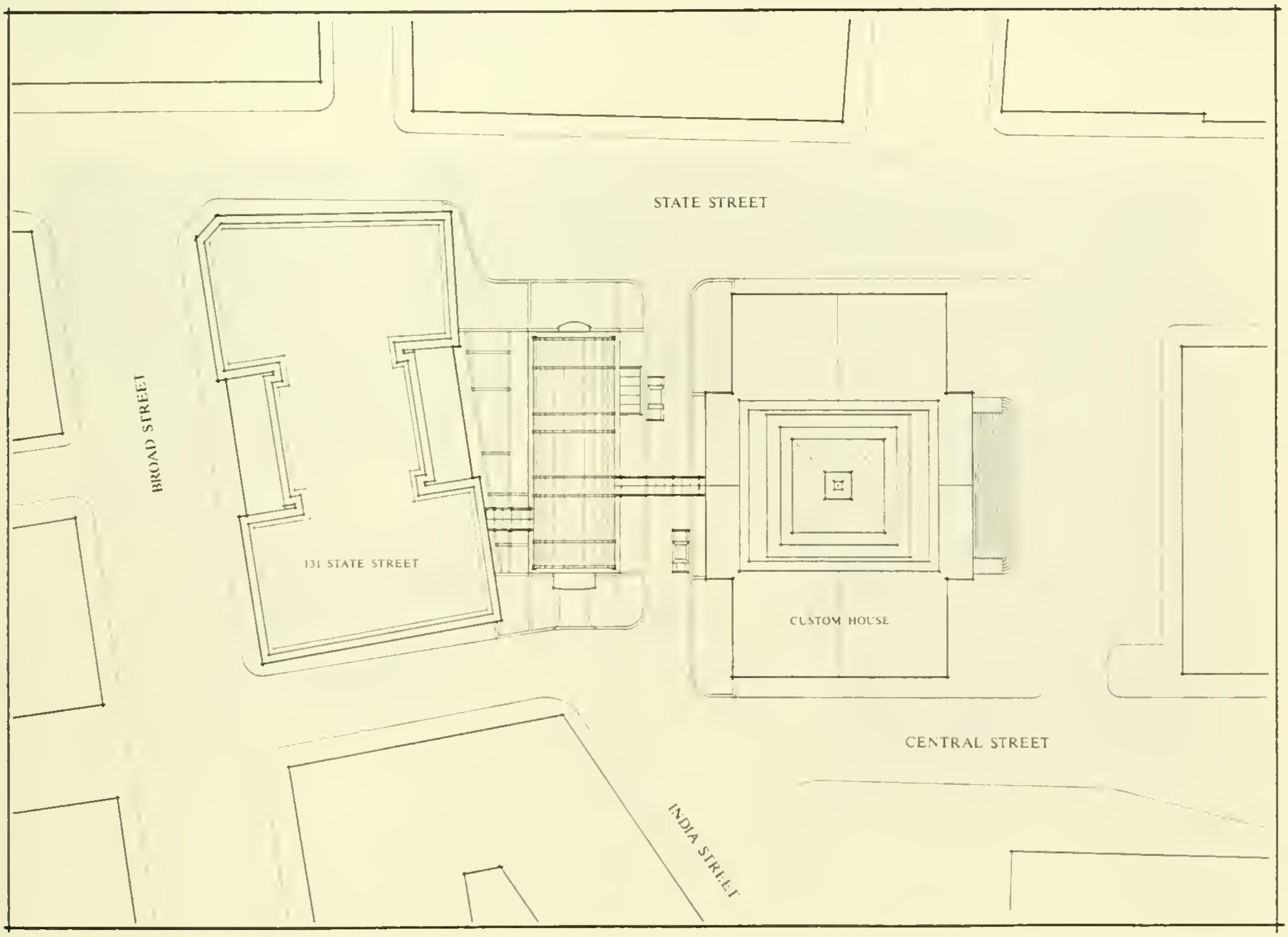
4.1

Pros

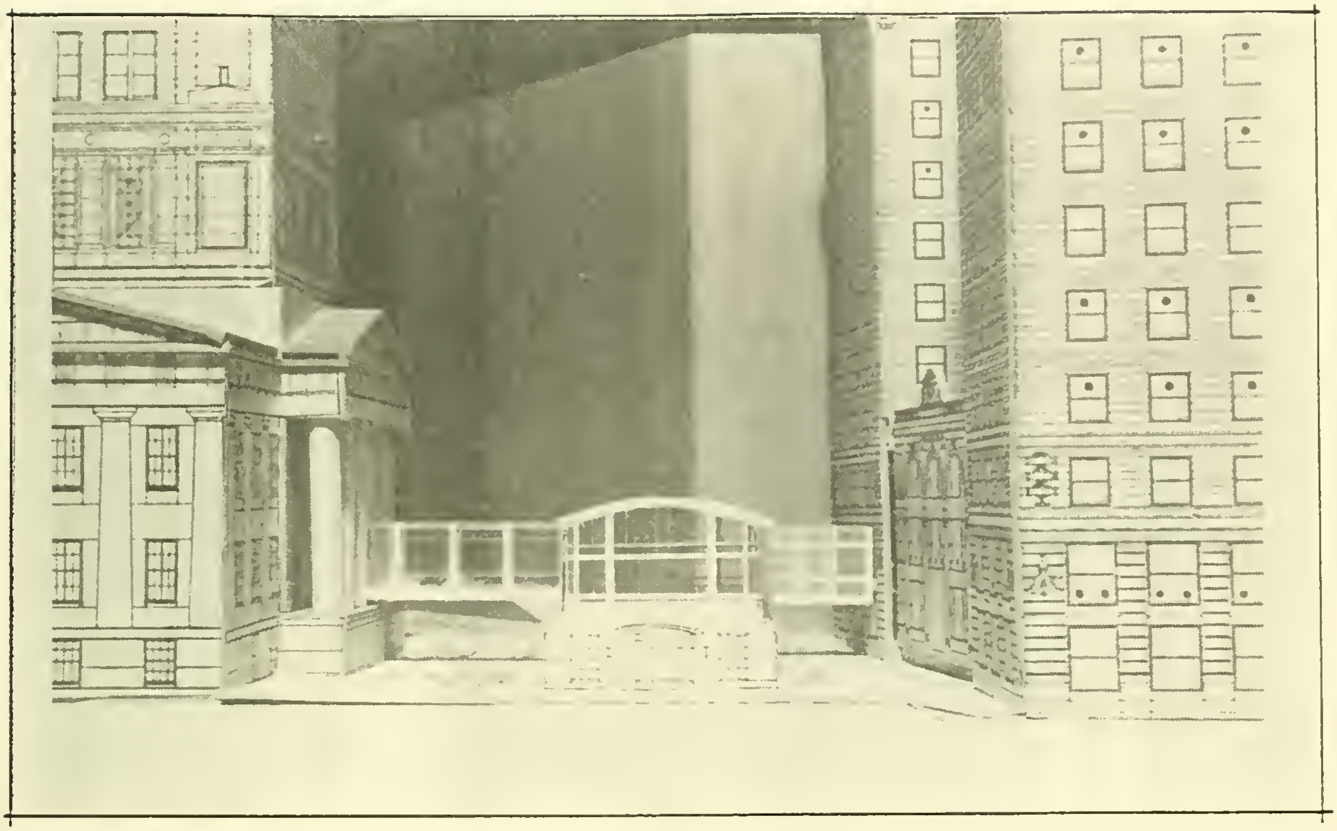
1. Leaves a narrow portion of India Street open to pedestrian and vehicular traffic.
2. Bridge connection enters center of the Custom House, allowing hotel guests to enter the Custom House's most monumental space.

Cons

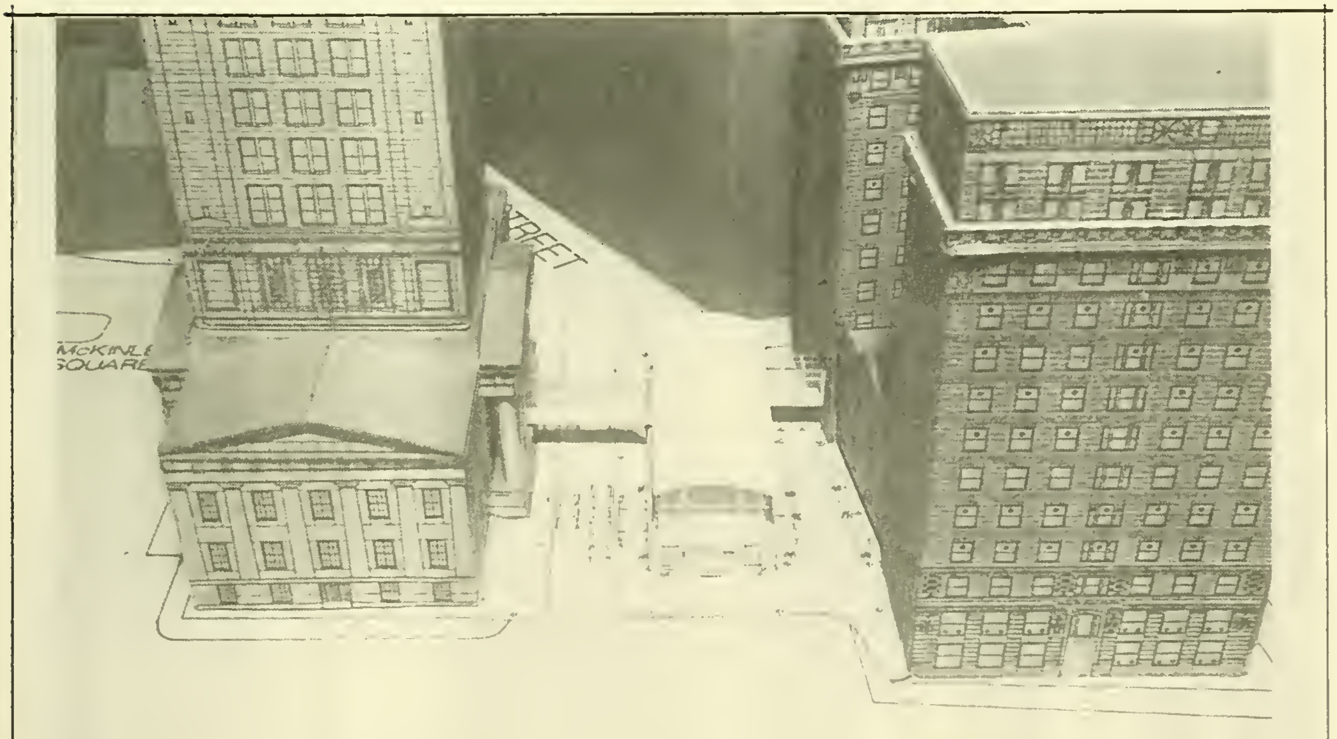
1. Insufficient room between the Custom House and the Board of Trade Building for new building, roadway, and sidewalks.
2. New structure is too close to the Board of Trade Building, creating undesirable pedestrian space.
3. Addition of new building disrupts relationship between the Custom House and the Board of Trade Building, altering character of space more than any other option.
4. Requires removal of existing historic stairs from the Custom House.
5. Remaining India Street would be unacceptably narrow.
6. Obscures views of facades of both historic buildings from many angles.



Site Plan



Eye Level View From State Street



Aerial View From State Street

Independent Building with Bridge into Custom House Near State Street

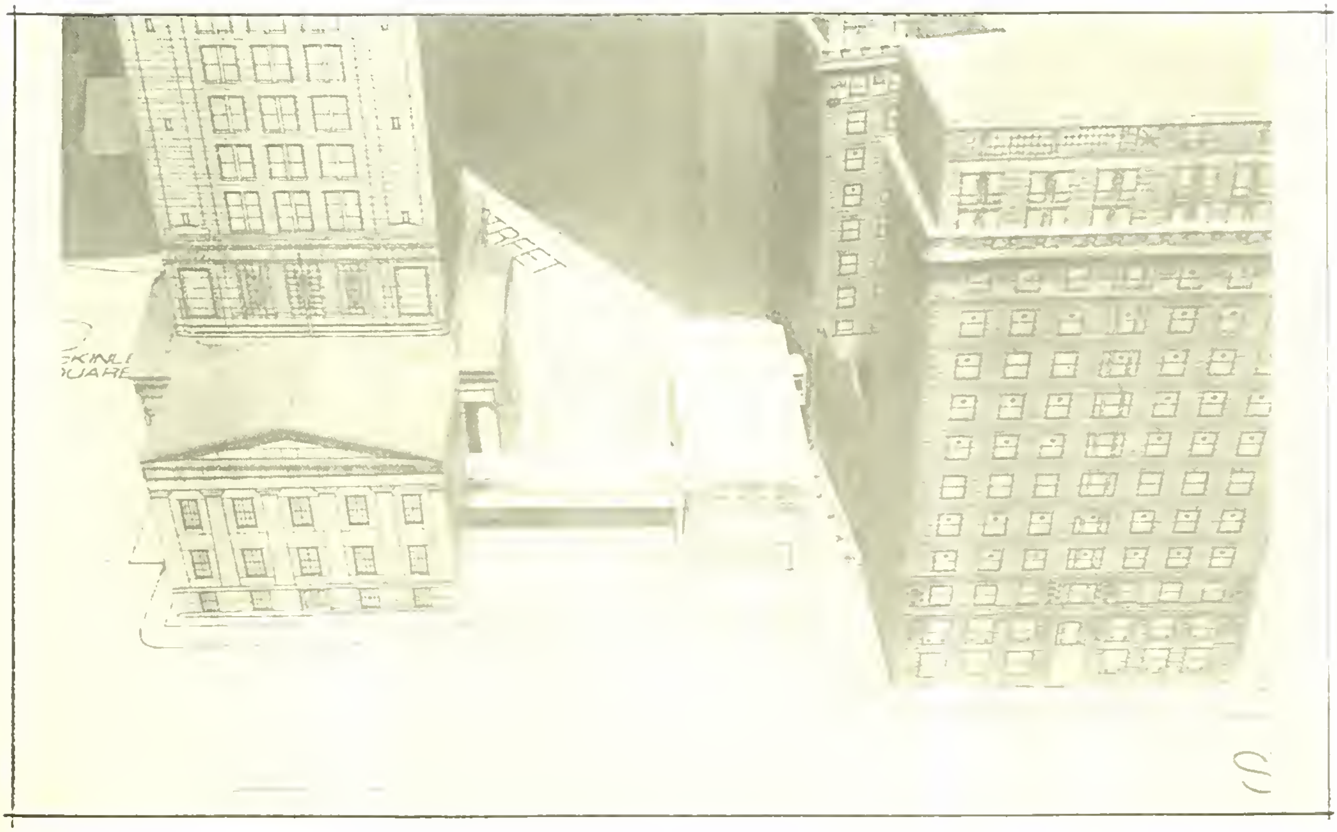
4.2

Pros

1. Leaves a narrow portion of India Street open to pedestrian and vehicular traffic.

Cons

1. Insufficient room between Custom House and the Board of Trade Building for new building, roadway, and sidewalks.
2. New structure is too close to the Board of Trade Building, creating undesirable pedestrian space.
3. Addition of new building disrupts relationship between the Custom House and the Board of Trade Building, altering character of space more than any other option.
4. Requires removal of existing historic stairs from the Custom House.
5. Remaining India Street would be unacceptably narrow.
6. Virtually blocks view of the Custom House facade as seen from State Street.



Aerial View From State Street

Independent Building with Bridge into Custom House Along State Street – Festive Pavilion

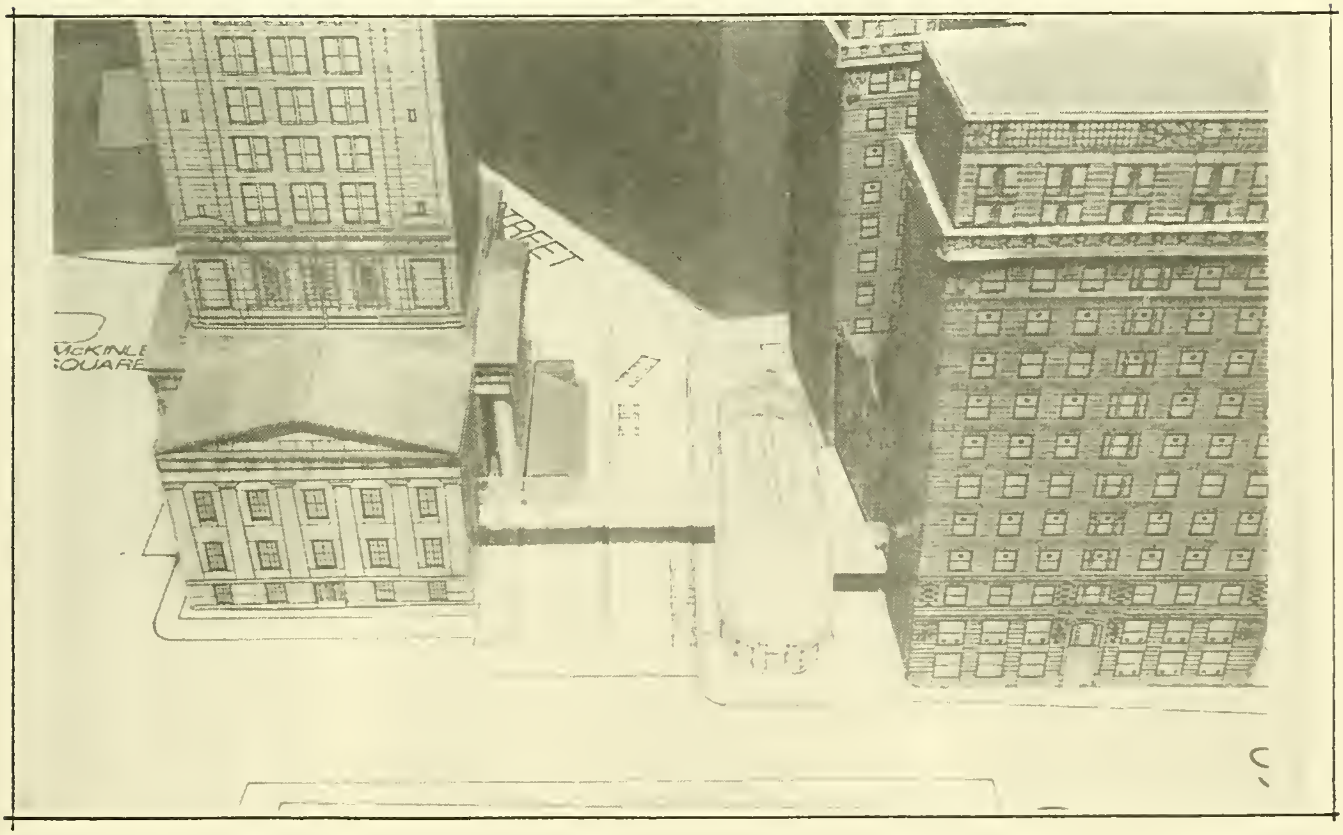
4.3

Pros

1. Leaves a narrow portion of India Street open to pedestrian and vehicular traffic.
2. Design of independent building is slightly less obtrusive than 4.2

Cons

1. Insufficient room between the Custom House and the Board of Trade Building for new building, roadway, and sidewalks.
2. New structure is too close to the Board of Trade Building, creating undesirable pedestrian space.
3. Addition of new building disrupts relationship between the Custom House and the Board of Trade Building, altering character of space more than any other option.
4. Requires removal of existing historic stairs from the Custom House.
5. Remaining India Street would be unacceptably narrow.
6. Virtually blocks view of the Custom House facade as seen from State Street.



Aerial View From State Street

Attachment to 131 State Street 5.0

5.0 - The connector is an addition to the India Street facade of the Board of Trade Building. A two-level glass structure encloses and highlights the center columns. A second floor bridge to the Custom House would be located in one of the three locations. Hotel drop-off occurs on India Street, which remains open to pedestrian and vehicular traffic.

Addition to Board of Trade Building with Bridge into Custom House Portico

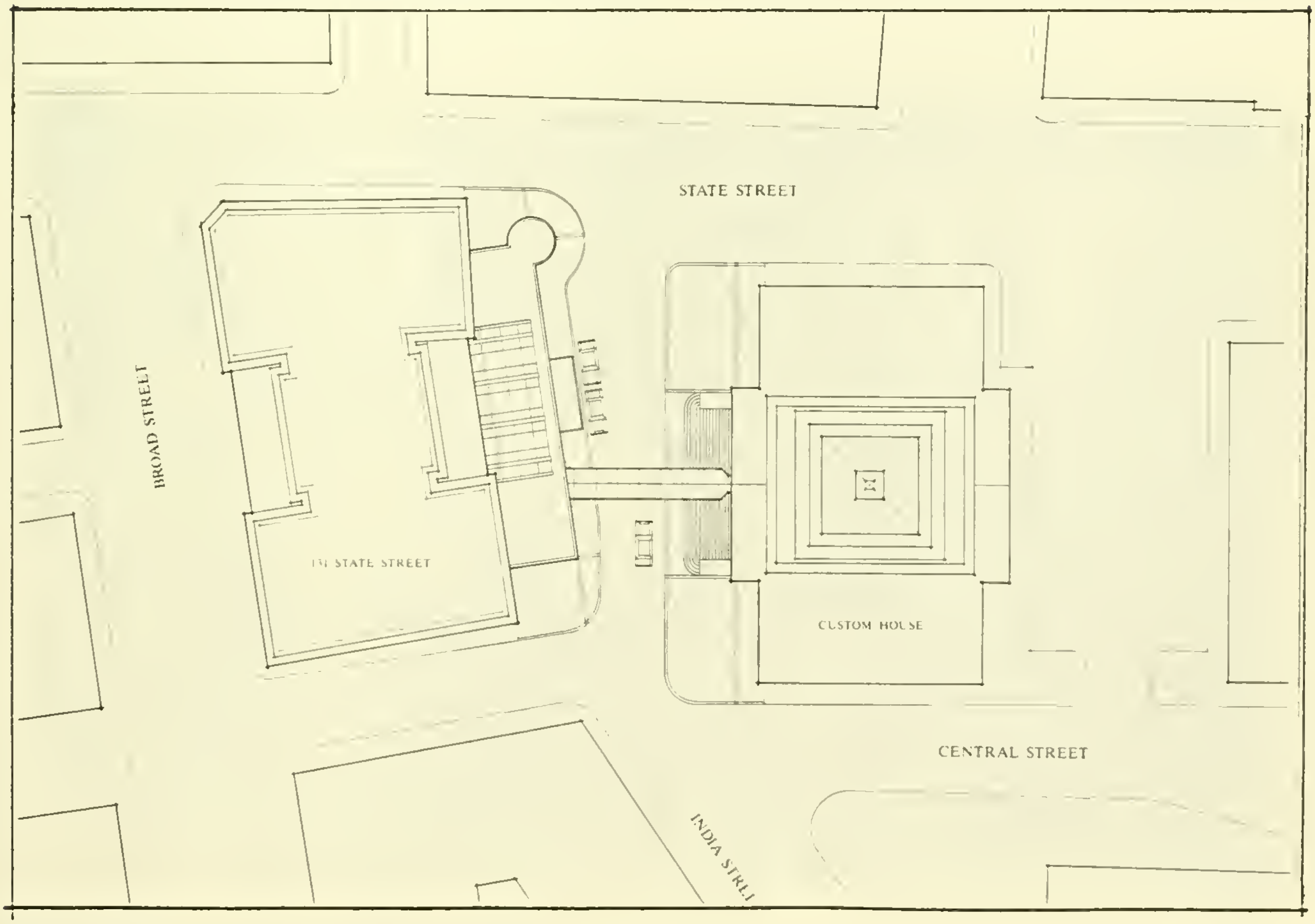
5.1

Pros

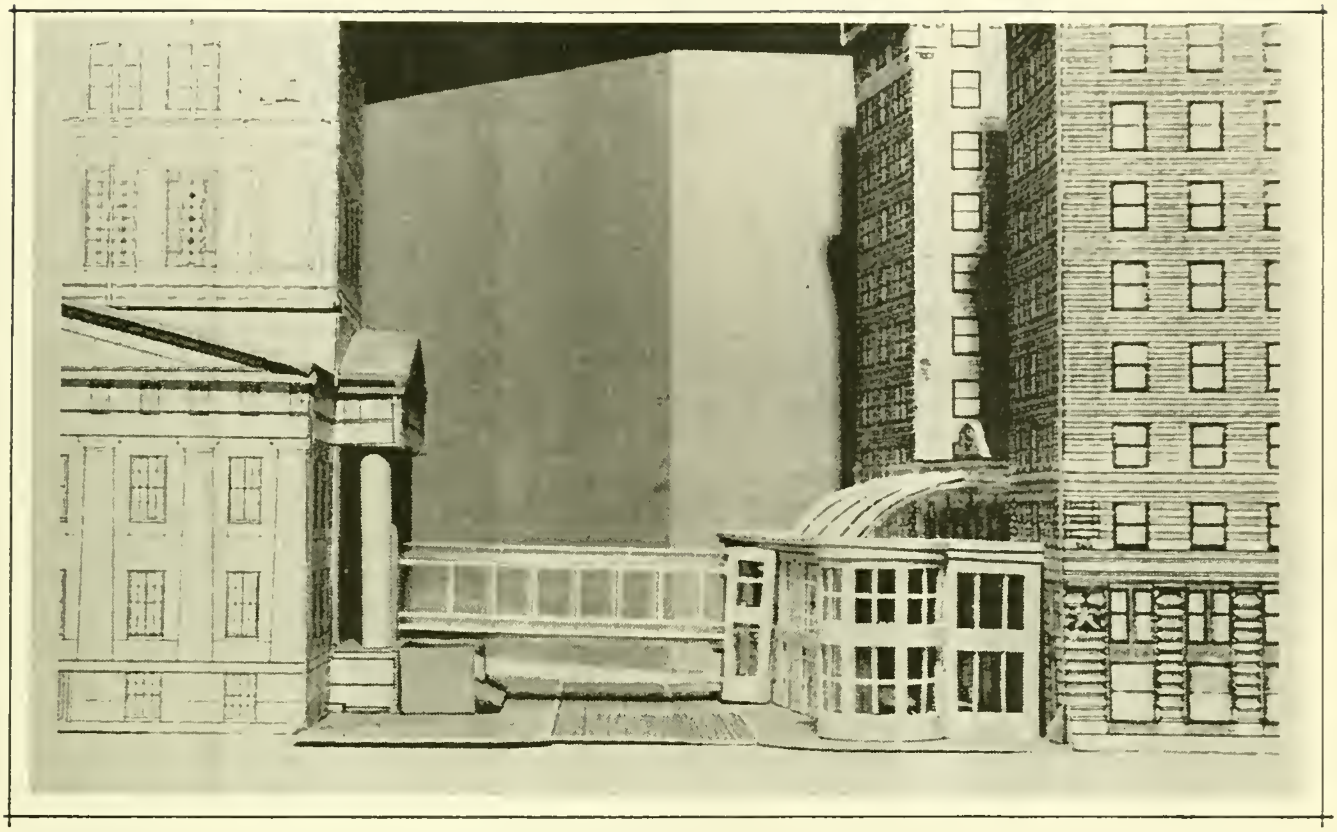
1. Leaves more of India Street open for pedestrian and vehicular traffic than any other above-grade option.
2. Creates a hotel lobby area which is appropriate in configuration and scale.
3. Allows existing historic Custom House stairs to remain in place.
4. Bridge into center of Custom House portico allows minimal, reversible connection to the Custom House w/minimal alterations to existing building.
5. Places visual impact on least historically significant building.
6. Bridge into center of portico allows hotel guests to enter at Custom House's most monumental space.
7. Bridge at this location respects the strong symmetry of the Custom House.

Cons

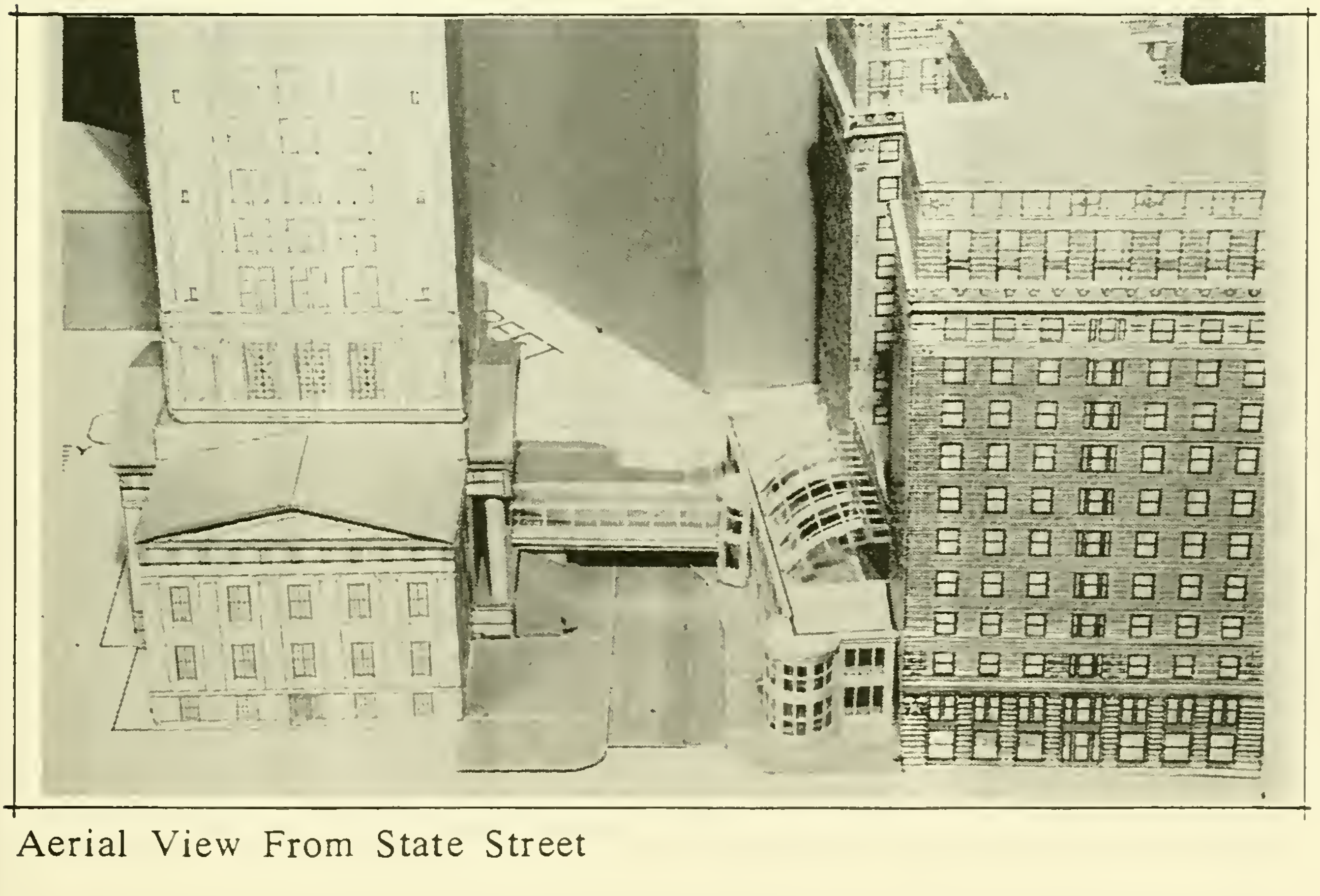
1. Glass lobby addition partially obscures lower facade of the Board of Trade Building as seen from State Street.
2. Bridge in this location obscures view of Custom House facade from State Street.



Site Plan



Eye Level View From State Street



Aerial View From State Street

Addition to Board of Trade Building with Bridge into Custom House Along Central Street

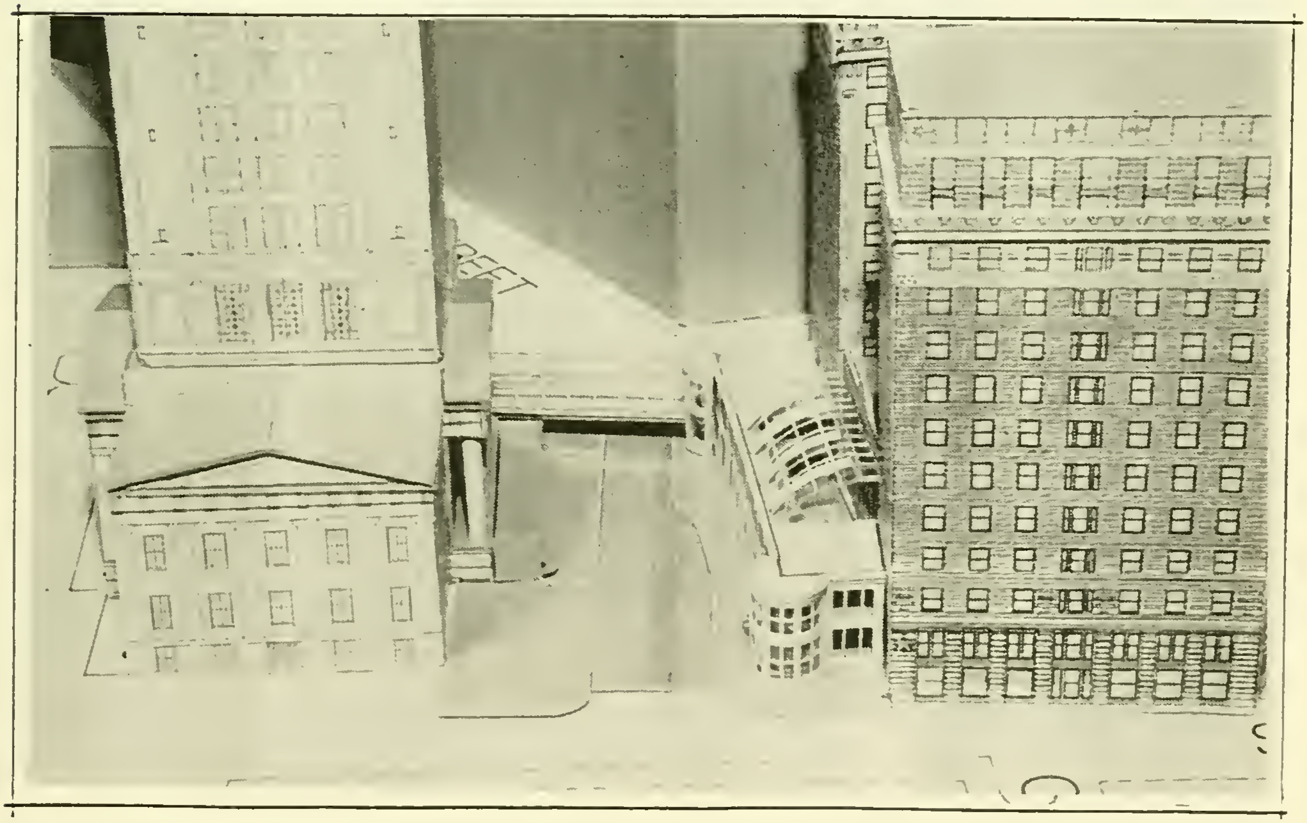
5.2

Pros

1. Leaves more of India Street open for pedestrian and vehicular traffic than any other above-grade option.
2. Creates a hotel lobby area which is appropriate in configuration and scale.
3. Allows existing historic Custom House stairs to remain in place.
4. Allows minimal, reversible connection to the Custom House.
5. Places visual impact on least historically significant building.
6. Least obstruction of Custom House facade viewed from State Street.

Cons

1. Glass lobby addition partially obscures lower facade of the Board of Trade Building as seen from State Street.
2. Bridge in this location requires alteration of existing Custom House window.
3. Because of location of elevator bank in the Custom House, this bridge location creates a confusing, circuitous route between hotel lobby and guest rooms in the Custom House.
4. Entrance into the Custom House at this location disrupts large historic conference/meeting rooms planned there. This is one of only two large, column-free spaces within either building.



Aerial View From State Street

Addition to Board of Trade Building with Bridge into Custom House Along State Street

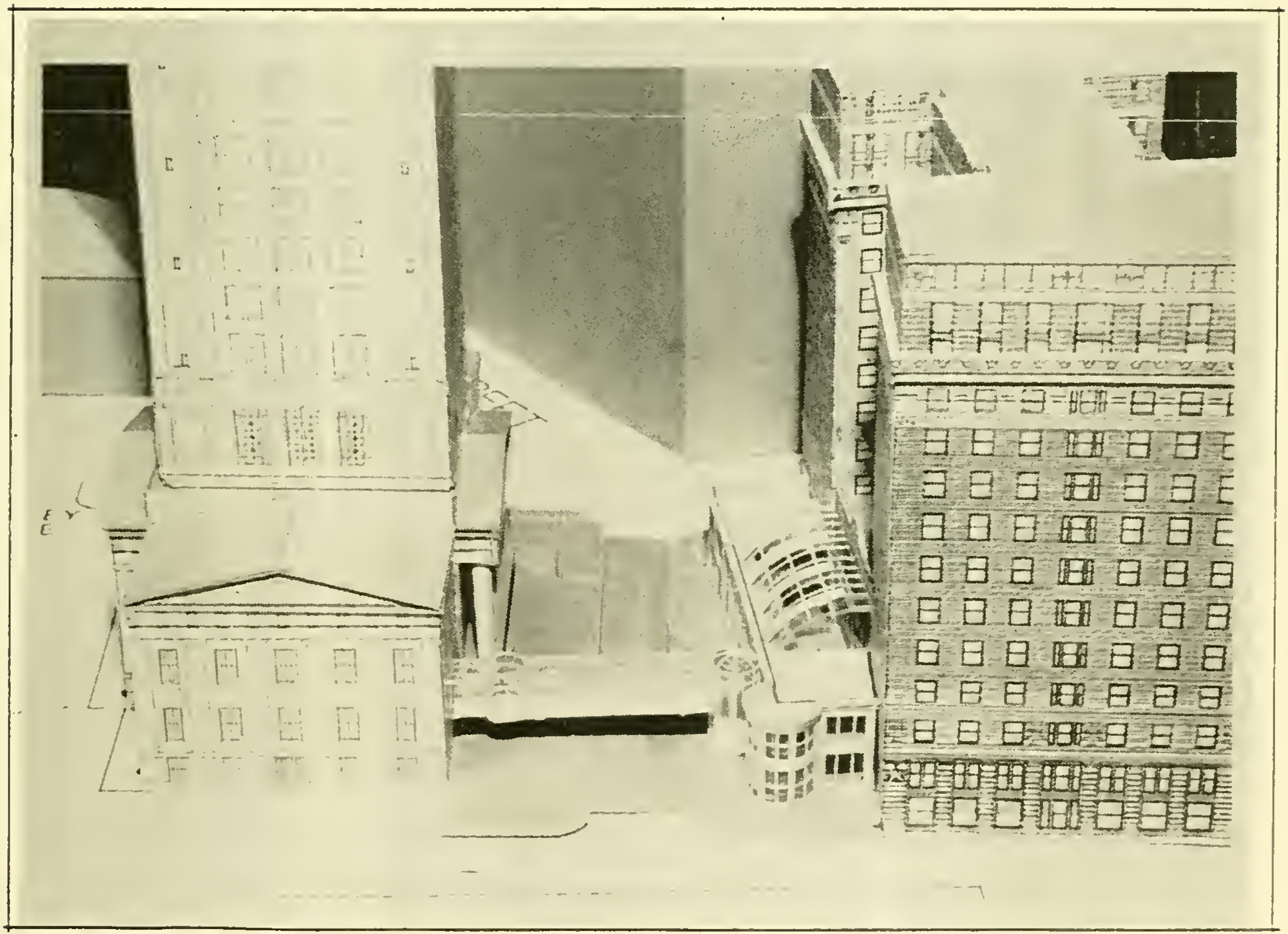
5.3

Pros

1. Leaves more of India Street open for pedestrian and vehicular traffic than any other above-grade option.
2. Creates a hotel lobby area which is appropriate in configuration and scale.
3. Allows existing historic Custom House stairs to remain in place.
4. Allows minimal, reversible connection to the Custom House.
5. Places visual impact on least historically significant building.
6. Provides shortest path to elevator banks in each building for hotel guests.

Cons

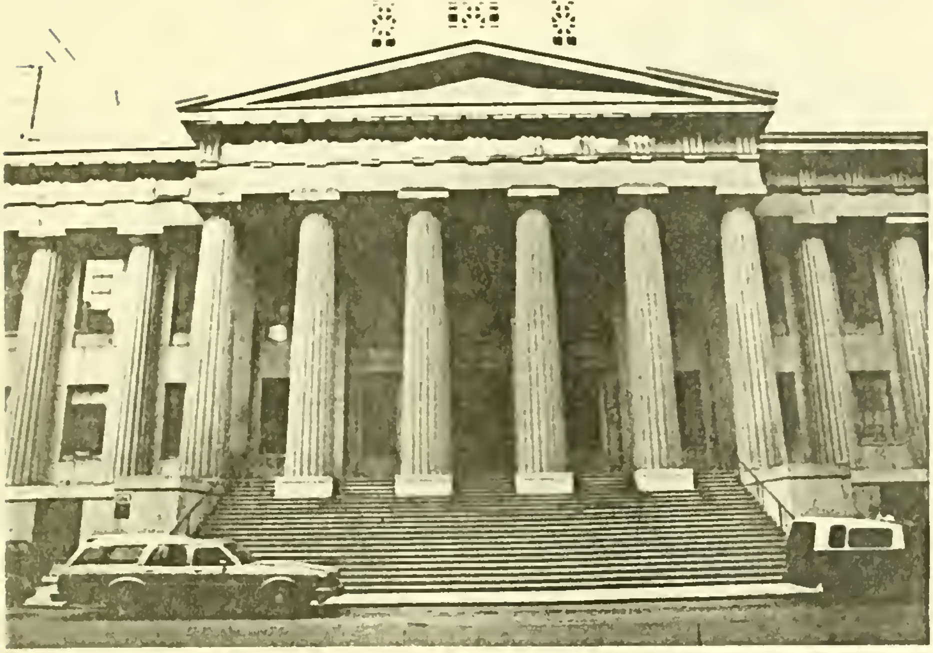
1. Glass lobby addition partially obscures lower facade of Board of Trade Building as seen from State Street.
2. Bridge in this location obscures view of the Custom House facade from State Street.
3. Bridge in this location disrupts sense of space between the Custom House and the Board of Trade Building.
4. Bridge in this location requires alteration of existing Custom House window.



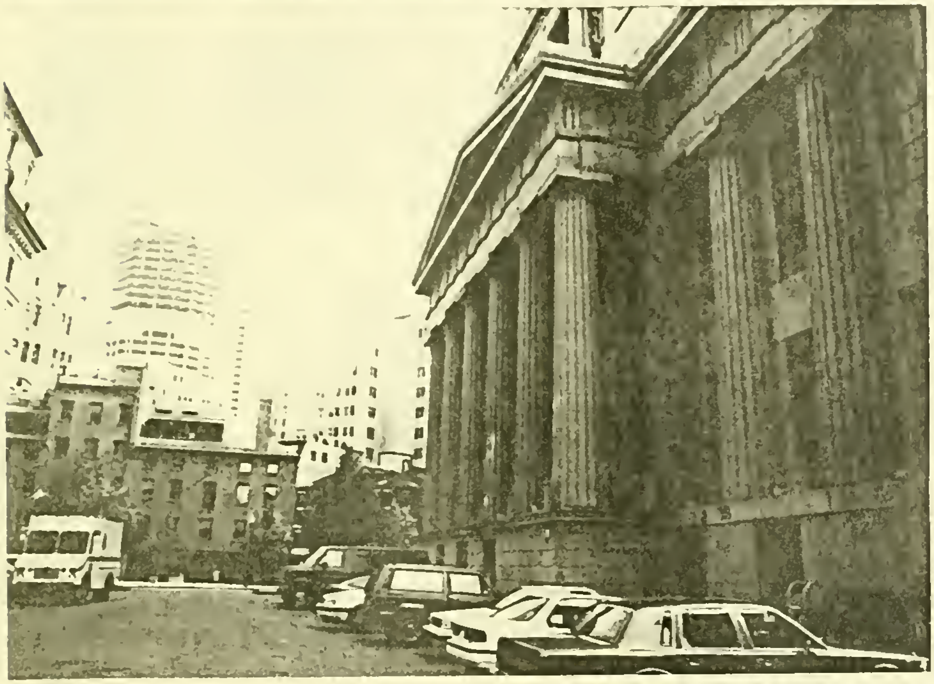
Aerial View From State Street

EXHIBIT VII

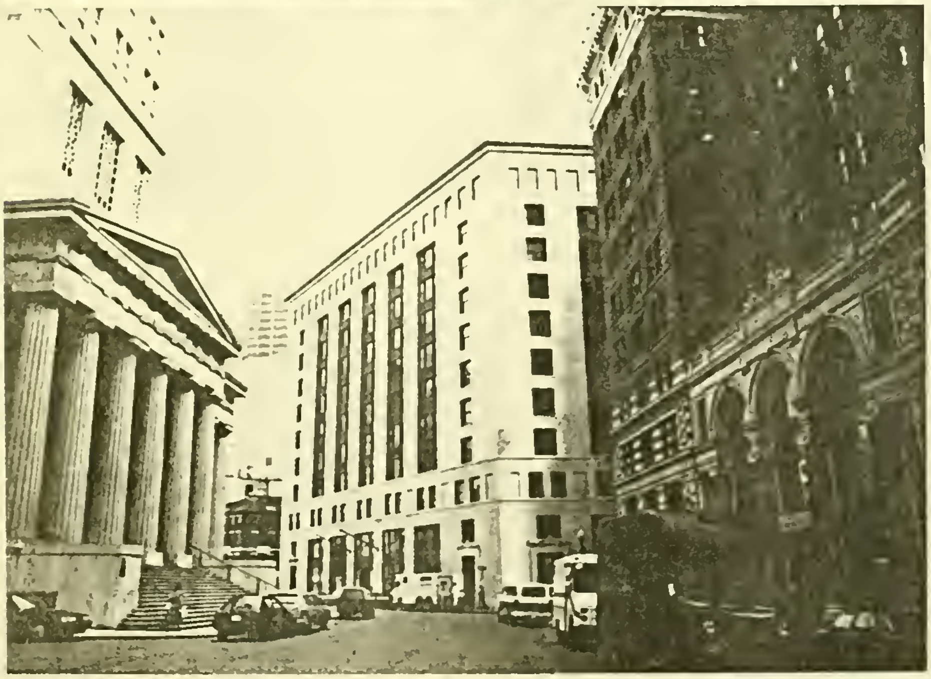
Photographs



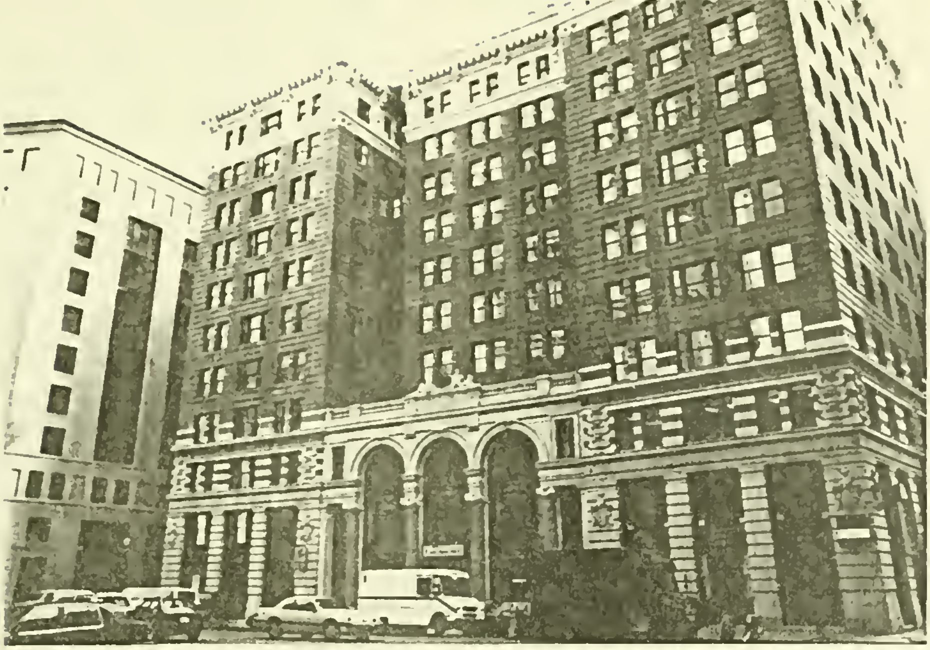
CUSTOM HOUSE
INDIA STREET



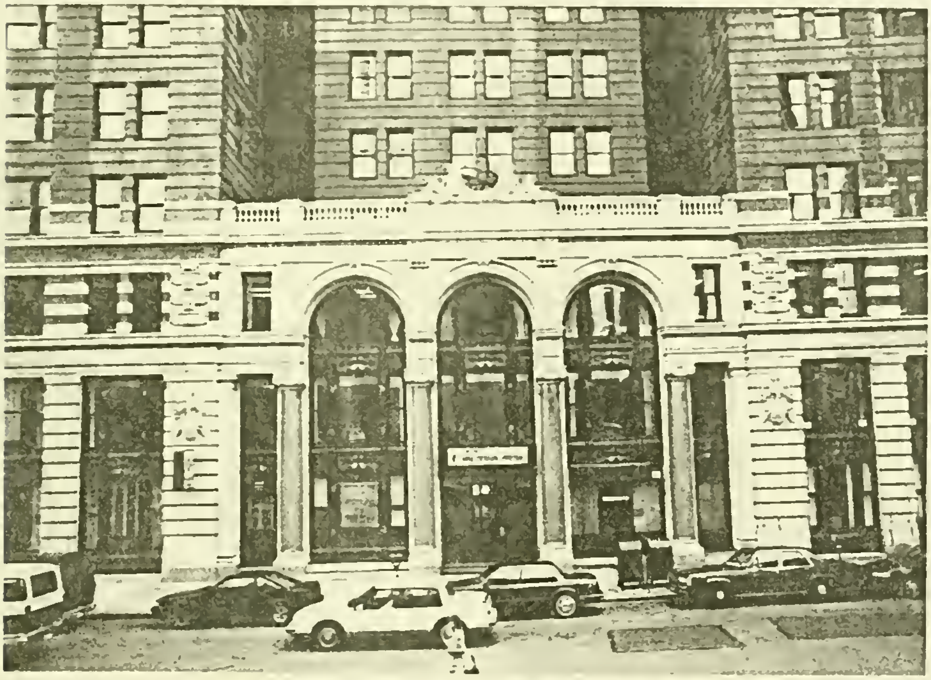
CUSTOM HOUSE
MCKINLEY SQUARE



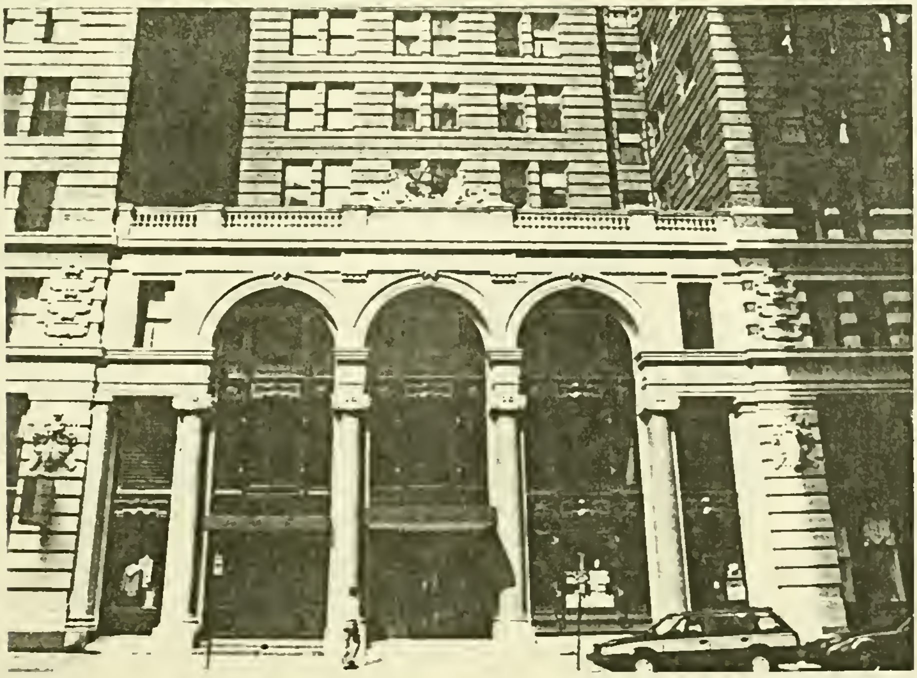
INDIA STREET



131 STATE STREET



131 STATE STREET
INDIA STREET



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